University of Regina
Prairie Justice Research

Ten Years After The Uranium Inquiries in Saskatchewan:

A Follow-Up Study of Participants' Attitudes and Concerns

SERIES: IN THE PUBLIC INTEREST
(Research Report No. 2)

TEN YEARS AFTER THE URANIUM INQUIRIES IN SASKATCHEWAN:

A Follow-Up Study of Participants' Attitudes and Concerns

by
Jim Harding, Ph.D.
Professor and Director
School of Human Justice
and
Beryl Forgay, M.A.
Research Assistant

April 1992

SERIES: *IN THE PUBLIC INTEREST*
(Research Report No. 2)

Canadian Cataloguing in Publication Data

Harding, Jim, 1941-

Ten years after the uranium inquiries in Saskatchewan

(In the public interest. Research report ; no. 2)
Includes bibliographical references.
ISBN 0-7731-0225-6

1. Uranium mines and mining - Saskatchewan - Public opinion - Longitudinal studies. 2. Public opinion - Saskatchewan. I. Forgay, Beryl, 1926-
II. University of Regina. Prairie Justice Research
III. Title. IV. Series.

TN490.U7H37 1992 622'.34932'097124 C92-098062-7

This is a publication of Prairie Justice Research at the University of Regina. Prairie Justice Research is funded by an operating contract with the Ministry of the Solicitor General and has the capacity to conduct socio-legal research for a diverse range of constituencies. For further information contact:

Director
Prairie Justice Research
Library Building
Unversity of Regina
Regina, Saskatchewan
Canada S4S OA2

(306) 585-4034

This research project was funded through "Human Context of Science and Technology" Strategic Grants of the Social Sciences and Humanities Research Council of Canada.

TABLE OF CONTENTS

PREFACE

ACKNOWLEDGEMENTS

1. THE LARGER STUDY 1

1.1 Objectives and Goals of the Larger Study 1
1.2 Goals of the Interview Phase 2

2. METHODOLOGY OF FOLLOW-UP STUDY 3

2.1 Ethical Approval 3
2.2 Research Tasks 3
2.3 Personnel 4

2.3.1 Data Processing and Analysis 4
2.3.2 Interview Co-ordination and Southern Interviewing 5
2.3.3 Northern Interviewing 5

2.4 Pilot Project 6

2.4.1 Numbering of Questions 7
2.4.2 Question Style 7
2.4.3 Question Wording 7

2.5 Participants in Follow-Up Study 7

2.5.1 The "Transcript" Sample 7

2.5.1.1 Analysis of Transcript Sample by Residence 8
2.5.1.2 Analysis of Transcript Sample by Gender 10
2.5.1.3 Analysis of Transcript by Ethnic Origin 10

2.5.2 Establishing a Target Population for the Follow-Up Study 11
2.5.3 Tracing Follow-Up Participants 12
2.5.4 Success and Failures in Tracing Participants 13

2.6 Creation of Invitations, Questionnaires, Guide and Mail-Out 18

2.6.1 Invitations and the Preliminary Questionnaire 18

2.6.2 The Interview Guide 18

2.6.2.1 The Content 18
2.6.2.2 Question Style 19
2.6.2.3 The Interview Appointment Procedure 19

2.6.3 The Mail-Out Questionnaire 19
2.6.4 The Flow Sheet 20

2.7 The Interviews 20

3. PROFILE OF PARTICIPANTS AND NON-PARTICIPANTS OF FOLLOW-UP STUDY 21

3.1 Profile of Contacted Participants 21

3.1.1 Residence of All Contacts in Follow-Up Study 21
3.1.2 Gender of All Contacts in Follow-Up Study 21
3.1.3 Ethnic Origin of All Contacts in Follow-Up Study 22

3.2 Contacts Who Did Not Participate in Follow-Up Study 22

3.2.1 Distribution by Inquiry 23
3.2.2 Residence of Contacts Who Did Not Participate 24
3.2.3 Gender of Contacts Who Did Not Participate 25
3.2.4 Ethnic Origin of Contacts Who Did Not Participate 25

3.3 Profile of Follow-Up Participants 26

3.3.1 Inquiry Participants 26
3.3.2 Residence and Inquiry 27
3.3.3 Gender 31
3.3.4 Ethnic Origin 32
3.3.5 Attitude Toward Uranium Project 33

4. THE CODING PROCESS 34

4.1 Expansion of Codebook 34
4.2 The General Process 34
4.3 Coding of Northern Interviews 36
4.4 Analysis of the Coding 37

5. RESULTS 38

5.1 The Scope of the Results 38

5.1.1 Completed Cross Tabulations 38
5.1.2 Assumptions About Results 41
5.1.3 The Creation and Analysis of Association Groups 41

5.1.3.1 General Occupational and Affiliation Profile of Follow-Up Participants 42
5.1.3.2 Association Grouping of Follow-Up Participants 44

5.2 Looking Back at the Inquiries 46
5.3 Checking Attitudes Towards Uranium Projects 48

5.3.1 The Proponent Group 48
5.3.2 The Opponent Group 50
5.3.3 The Moratorium Group 51
5.3.4 The Neutral Group 51
5.3.5 Comparison With New Attitude Groups 51
5.3.6 Comparing Remembered and Transcript Coding 52
5.3.7 Remembered Attitudes and Associations of Participants 55

5.4 Changes in Attitudes Since the Inquiry 57

5.4.1 Participant Groups and Expanded Attitudes 57
5.4.2 Attitude Changes for Total Follow-Up 59
5.4.3 Attitude Changes Among Association Groups 60
5.4.4 Changes in Participants' Views of the Inquiry 60
5.4.5 Changes in Association Groups' Views of the Inquiry 62

5.5 Understanding Changes in Major Themes 63

5.5.1 Comparing Graphs of the Major Themes 64
5.5.2 Comparing Least and Most Prevalent Major Themes 66

5.5.2.1 Aboriginal Men and Women ..... 6?
5.5.2.2 Non-Aboriginal Northern Men and Women 68
5.5.2.3 Non-Aborignal Non-Saskatchewan Men 69
5.5.2.4 Rural Men and Women 70
5.5.2.5 Urban Men and Women 70

6. SUMMARY OF MAIN RESULTS 72

6.1 Participant Groups 72

6.1.1 Attitudes Towards Uranium Projects 73
6.1.2 Major Theme Comparison 73
6.1.3 Changes in Attitudes 75

6.2 Association Groups 76

6.2.1 Unconditional Support for the Projects 76
6.2.2 Moratorium Support 76
6.2.3 Unconditional Opposition 77
6.2.4 Changes in Attitudes 77

7. THEORETICAL IMPLICATIONS 78

7.1 Theoretical Problems about Attitudes 78

7.1.1 Learning Attitudes 78
7.1.2 Incentives and Conflicts in Interests 80
7.1.3 Attitudes and Cognitive Consistency 82
7.1.4 Direction for Theory 85

7.2 Attitudes, Beliefs and Behaviour 87

APPENDICES

PREFACE

This research report is No. 2 in an ongoing series entitled ***In The Public Interest.*** The Series is part of Prairie Justice Research's larger socio-legal research program. Research Report No. 1 in the Series was an extensive Bibliography on Saskatchewan's Uranium Inquiries. The Series also includes Working Papers, the first entitled ***Aboriginal Rights and Government Wrongs: Uranium Mining and Neocolonialism in Northern Saskatchewan.***

Both the Reports and Working Papers are available from Prairie Justice Research, School of Human Justice, University of Regina. Other Reports are planned dealing with the political policy controversy over the expansion of uranium mining, and a retroactive assessment of claims about the social, economic and environmental impacts of uranium mining made in the 1970s by various interest groups. Various Working Papers on such topics as gender differences on the controversy over uranium mining are possible from the extensive database.

This Research Report is based on the follow-up interviews of participants in inquiries into uranium mining/refining held between 1977-1980 in Saskatchewan.

This Report comes at an opportune time, when a new, joint Federal/Provincial inquiry is being initiated on five new proposed uranium mines in northern Saskatchewan (Cluff Lake extension, McArthur River, Cigar Lake, Midwest and McLean Lake projects). This Report provides the most reliable, research-based base-line of attitudes and concerns expressed by various Aboriginal, environmental and industry representatives and participants at the time of the first set of public inquiries. It can provide essential knowledge about, and insight into, the historical background to the uranium mining controversy; the ongoing dispute over the cumulative effects of this industry; and into the workings of a public participation and public inquiry process.

Other publications arising from this ongoing research project are listed in footnotes in the text.

The researchers are interested in doing more comparative, international research in this field of study. Correspondence is therefore invited from other researchers working in related fields in other countries.

Jim Harding, Ph.D.
Principal Investigator

ACKNOWLEDGMENTS

This study was made possible with a Strategic Grant, in the area of the Human Context of Science and Technology, from the Social Science and Humanities Research Council (SSHRC) of Canada. The researchers would also like to thank the University of Regina's Presidents Fund for a small grant which helped organize the computer print-outs for the larger study, which was necessary to complete this report for publication.

We would also like to acknowledge research assistants Lillian Sanderson, who did the northern interviews, the work of Malcolm Harper, who coordinated the data coding and analysis, and to computer programmer Jim Hanna, who all worked on the project during the time the follow-up field and computer analyses were being done. The typing of the text and tables and attractive formatting was done by Prairie Justice Research secretary Linda Bradley.

Without the assistance of everyone listed, we could not have completed this study.

Jim Harding and Beryl Forgay

1. THE LARGER STUDY

1.1 Objectives and Goals of the Larger Study

In 1983 a major project was planned to study the Saskatchewan Uranium-related Inquiries held between 1977 and 1980. Its main objectives were to:

1. establish the historical, economic and political context of the inquiries and the uranium projects on which they were based;

2. undertake an analysis and comparison of the structure of each inquiry;

3. complete an inventory of the participants including (when possible) characteristics such as residence, ethnicity, gender, occupation and affiliation (with uranium corporations, government(s), lobby groups, environmental or citizen action groups);

4. undertake an analysis of the content of a broad sample of the transcripts, reports and print coverage of the inquiries. The analysis of content would attempt to determine attitudes of sampled participants to the uranium projects; themes of the presentations and/or discussions of each sampled participant, predictions encountered and types of interactions between sampled participants and members of the inquiry boards and other designated examiners;

5. interview former inquiry participants to assess their current views of the inquiries and of the uranium projects; and

6. re-examine the role of these inquiries in the policy making process and consider reforms in the inquiry process.

The contextual background on the Inquiries and uranium projects has been researched separately and will be published at a later date as a "Chronology of Provincial Uranium Policy." (See Appendix 1 for the preliminary introduction and table of contents).

The study of the transcripts hoped to answer or address more intelligently some pertinent questions about theories of impact such as: What interest groups existed among the participants and what were the major themes stressed by each? What predictions regarding the impacts of the projects were made and by whom? It also hoped to probe the inquiry process with such concerns as: was any type of evidence given more credibility by the panels? Was any evidence neglected or trivialized? Were there differences in these and other areas between the provincial inquiries on uranium mining and the federal inquiry on uranium refining? What influence did the inquiries have on uranium mining and refining in Saskatchewan? How did the transcripts and the final reports compare in terms of time, topics, order and emphasis? (See Appendix 2 for the overview of the larger project).

Central to the study has been the content analysis of segments of the transcripts of presentations by the sampled participants. The content analysis was carried out by coding such things as themes, attitudes, predictions and types of interactions found in the transcripts. A numerical coding system was used to record this data. The resulting comprehensive database of information can be studied in many ways, e.g., to probe

interactions and linkages of ideas and attitudes in terms of gender, occupation, residence and ethnicity. (See Appendix 3 for a description of the database and printouts to date).

Some results of this earlier phase of the research have already been reported on or published, and much more has been analysed or is ready for publication (see Appendix 4). A lengthy sub-study retrospectively analyzing the economic and ecological predictions is, for example, underway. Preliminary work on another sub-study of inquiry participants, examining gender differences in viewpoints and in interaction in the inquiries, has also been started.

As part of the fifth goal of the main study, a follow-up study involving the locating and interviewing of the participants sampled in the previous study was begun in the spring of 1986. The follow-up study methodology and results analyzed to date will be the focus of this report. The follow-up study builds upon the study of the inquiry transcripts from sampled participants. That sampling and general methodology is discussed in an earlier report to the Social Science and Humanities Research Council (SSHRC).[1]

1.2 Goals of the Interview Phase

The goals of the follow-up study were:

1. To obtain a direct evaluation of the inquiry process from each participant.

2. To provide participants with an opportunity to express directly their attitudes and concerns about uranium mining and refining at the time of the public inquiries. Among other things the results could be coded and compared with those derived from the sampled pages of their past presentations recorded in the transcripts at the time of the inquiries. This plan had the added advantage of enabling participants to speak more broadly about more issues than had been evident in the study of the transcripts.

3. To make possible the documentation of more recent attitudes and concerns of participants toward the inquiries and the uranium projects in view of later experience and reflection. These also would then be coded in order to assess changes in attitudes over time.

4. To determine several key characteristics of participants such as gender, occupation, residence, ethnicity and affiliation which were not always available from the transcripts.

---

[1] Jim Harding, Report to SSHRC Strategic Grants, Human Context of Science and Technology, University of Regina, Prairie Justice Research, January 20, 1986, p.12-25.

2. METHODOLOGY OF FOLLOW-UP STUDY

2.1 Ethical Approval

In accordance with the University of Regina policy, the established procedures of Prairie Justice Research, and those of the SSHRC regarding research involving human subjects, this research project was submitted to the University of Regina Human Subjects Research Ethics Review Committee. The review conducted by this Committee is based on policies of the SSHRC. Approval for the research procedures was given by the Ethics Review Committee of the University of Regina, May 28, 1984. (See Appendix 5).

Permission to interview inquiry participants was obtained by sending an invitation, explanation and preliminary questionnaire by mail. This mailing was followed by a telephone call or, if possible, a personal contact to see if each person would agree to an interview of approximately one hour.

During the coding which followed the interviews, interviewee names were replaced with a pseudo-identification number as was done with the inquiry transcripts. Individuals interviewed were not identified by name either in the data files or in any subsequent report detailing the analysis of the data.

The only deviation from the original follow-up plan was the dropping of a proposed group workshop/interview format including at most 35 people (to have been video taped), and the use of only individual interviews using notes and/or audio taping. This change was necessitated in part, by the suggestion by the reviewers of the funding application to concentrate on individual follow-up interviews, which they thought allowed a wider participation. This approach, however, made the production and dissemination of transcribed interviews impossible within the budget. Instead, interviewees were promised a copy of a summary report on the interviewing phase of the project. This summary report went out to those who participated in the study in January 1990. It is a shortened version of the results reported in this report.[1]

Given the difficulty of locating and interviewing inquiry participants, especially northerners, it remains debatable whether group-oriented events, with individual interviews attached to them, might have brought more people, especially in the north, into the study. This approach was not feasible within the funding and budget provided for this study.

2.2 Research Tasks

The follow-up study followed the plan laid out in the application for funding in 1984, although approximately three times as many interviews were completed as the original proposal had envisaged. The phase involving locating and interviewing the sampled participants began in the spring of 1986. An analysis of the interviewing process identified the following tasks:

---

[1] Jim Harding; Beryl Gorgay; and Malcolm Harper, ***Ten Years Later: A Research Report o the Follow-Up Study of Participants from Saskatchewan's Uranium-Related Inquiries 1977-1980, A Summary Report to the Participants,*** University of Regina, Prairie Justice Research, 1989.

A) Designation of Initial Personnel

1. Data process co-ordinator
2. Programmer/Coder/Interviewer for southern Saskatchewan

B) Pilot Project

1. Preparing of interview invitations and instrument design
2. Contacting and interviewing participants who were not part of the sampled participant group.
3. Revising instruments

C) Interview Study Sequence

1. Designation of northern interviewer
2. Tracking sampled participants
3. Reviewing and revising of invitations, preliminary questionnaires, interview quides and flow sheets in light of pilot project and input of northern interviewer.
4. Southern interviewing segment
5. Northern interviewing segment
6. Mail-out questionnaire segment
7. Coding
8. Data entry
9. Analysis of information and comparison with results from transcript study.

2.3 Personnel

Three research assistants, one programming consultant, and one support staff were required to work full or part-time on the follow-up study.

1. Research assistant to oversee data processing and analysis (full-time).
2. Research assistant to implement the pilot project and the interview segment, conduct the interview segment in Southern Saskatchewan, organize the mail-out questionnaire segment and code the interviews and questionnaires (full-time).
3. Research assistant to locate sample participants and to conduct the interviews in Northern Saskatchewan (short-term).
4. SAS computer programmer (part-time).
5. Stenographic assistance (part-time).

2.3.1 Data Processing and Analysis

The research assistant who had been most closely connected with the ongoing data processing and analysis of the codes from the transcript study was re-hired in April 1986 to continue that work, to facilitate the location of sampled participants, to check coding done for the interview sample and to oversee data processing and analysis of the interviewing phase (see Appendix 6).

2.3.2 Interview Co-ordination and Southern Interviewing

Criteria for the interviewer in Southern Saskatchewan included: a knowledge of the inquiries and of the project and coding system, experience in interviewing and a willingness to adopt a neutral stance toward inquiry issues. A car was also needed in order to reach rural communities.

The southern interviewer, who had previously been working on the study, primarily as a coder, was re-hired in April 1986 to co-ordinate the follow-up study, to conduct the pilot study, to assist in designing the interview guide, to conduct southern interviews and to code the northern and southern interviews (see Appendix 6).

2.3.3 Northern Interviewing

A job advertisement for the northern interviewer was circulated throughout the University of Regina and through the union covering research assistants (see Appendix 7). It was also distributed through Gabriel Dumont Institute of Native Studies and Applied Research, the Indian Social Work Program within the Saskatchewan Indian Federated College and the University of Regina Community Education Centre of the University of Regina Faculty of Social Work located in La Ronge, in Northern Saskatchewan.

The northern interviewer required a working knowledge of at least one of the Aboriginal languages, most particularly Cree, because of its prevalence in northern Saskatchewan communities. Knowledge of Chipewyan was also desirable, but it was decided that an interpreter could be used if necessary. (Such translation was not found necessary, partly due to more difficulty in locating people in the more northernly Chipewyen communities). It was essential that the northern interviewer not only be knowledgeable about communities in the north, but also have some general knowledge about the uranium industry and about the public inquiries. A car for travel was deemed a necessity as well as a knowledge of travel conditions. Experience with and sensitivity to cross-cultural interviewing was essential as was the willingness to adopt a neutral stance on uranium-related issues.

Five persons, four of Aboriginal ancestry, applied for the job and all were interviewed. The successful applicant had lived most of her life in LaRonge, spoke Cree and English, had taken university level training in Indian social work in Saskatoon, had worked in the uranium industry for a time and had attended one of the inquiries as an observer.

After being hired she spent the last week of August 1986 in Regina being oriented to the project and trained for the interviewing. Training included the following:

1. Learning the background of the study, including a discussion of the transcripts sampled and the coding technique used for describing and analysing their content.
2. Assisting in the finalization of the letters of invitation, preliminary questionnaires and the interview guide to be used in contacting and interviewing, and revision of these for the north as necessary.
3. Discussion of the purpose of the interviews, and role playing with other project staff.

4. Completion of an extensive taped interview with a former inquiry participant, with feedback from other project staff.
5. Reviewing the list of sampled participants in northern Saskatchewan and assisting in locating addresses for individual northerners with discussion of unique problems of locating people in the North.
6. Discussion of logistics of northern travel (see Appendix 8).

2.4 Pilot Project

Thirty-seven Regina participants in the three inquiries who had not been sampled participants in the transcript study were identified from the lists in the inquiry reports. These became the pilot project population. Addresses were found in telephone and Henderson directories for 23 (62.2%) of these people. Letters inviting them to participate and a preliminary questionnaire were sent to them (See Appendix 9). Six of these letters were subsequently returned because of incorrect addresses. It was, therefore, assumed that 17 (46%) of the letters had reached their destination. Seven persons (18.9%) replied very quickly and were interviewed. Attempts to reach the remaining 10 by telephone resulted in six more interviews. The seventh person turned out to be a different person with the same name. The eighth person had an unlisted number and a reminder letter brought no further response. The ninth person refused an interview, and the tenth person could not be contacted in spite of numerous telephone calls.

The interview guide was designed to meet the four main objectives of the follow-up study listed earlier. Questions were designed to elicit "remembered" attitudes about the inquiry and uranium mine and/or refinery at the time of the inquiry and in the present. Questions were also designed to elicit views about the major themes which had been devised for coding the transcripts. These major themes are outlined later in this report.

The thirteen interviews represented 35.1% of the original pilot project population and 76.5% of those persons assumed to have received the invitation to participate. Table 1 details the mailing results of the pilot project.

TABLE 1

Pilot Project Mailing Results

Total Population	Address Found	Returned Undelivered	Assumed Received Mailing	Answered Affirmative	Contacted Affirmative	Total Interviewed
37	23 62.2%*	6 16.2%*	17 46%*	7 18.9%* 41.2%**	6 16.2%* 35.3%**	13 35.1%* 76.5%**

* Percentage of Total Population.
** Percentage of those Assumed Received Mailing.

2.4.1. Numbering of Questions

On the basis of the 13 interviews, changes in numbering were made in the questions in the interview guide to allow for more accurate processing, as well as for easier comparison of attitudes remembered from the time of the inquiries with those held at the time of the interview. Some changes in wording and style were made as well.

To facilitate orderly coding, a decimal system for numbering questions was substituted for the cursive numbers of the pilot project. Thus questions numbered "1.00" identified the inquiry under discussion. The questions in the "2.00" category referred to the respondent's experience with the inquiry. The "3.00" questions detailed the remembered concerns about the uranium project at the time of the inquiry, and the "4.00" questions detailed concerns about the uranium projects at the time of the interview.

2.4.2. Question Style

During the pilot study a multiple choice type of question directed toward finding out the person's priority or hierarchy of concerns was found to be too awkward to use. Two simple open-ended questions following the original questions were substituted: "Of the issues we have just discussed, which did you think were most important at the time?" and "Which do you believe are most important today?" These became less cumbersome substitutes.

2.4.3. Question Wording

A few questions had required frequent explanation and were reworded following the pilot project, for example, in reference to the inquiries, "Would you have organized it differently?" was changed to "Would you have preferred it to have been organized differently?" (See Appendix 10 and 11 for original and revised Interview Guides).

2.5 Participants in Follow-Up Study

2.5.1 The "Transcript" Sample

Three uranium-related inquiries took place in Saskatchewan between 1977 and 1980. Both the Cluff Lake Board of Inquiry (CLBI) and the Key Lake Board of Inquiry (KLBI) were lengthy and travelled to a number of communities for local hearings. Both had "formal proceedings" in one location which tended to concentrate on corporate and technical evidence. The Warman Inquiry, properly called the "Federal Environmental Assessment Review of the Eldorado Uranium Refinery, RM of Corman Park, Saskatchewan"

was much shorter and was held in only two communities, Saskatoon and Martensville, and included both technical and local input.

Nine hundred and fourteen (914) participants took part in the three uranium inquiries in Saskatchewan. For the purposes of the content analysis of the transcripts, 84 persons were sampled from the Cluff Lake formal hearings and 97 were sampled from Cluff Lake local hearings; 69 were sampled from the Warman inquiry; and 80 from the participants in the Key Lake formal and local hearings.

This sampling included stratified random sampling except when it was necessary to do self-sampling due to the importance of the person's position in the inquiry process or in particular agencies or organizations having to do with the proposed uranium-related project. Larger percentages were taken for the samples of women and native people, both of whom had small representations in the inquiries, to ensure sufficient sizes for later analyses.

A total of 315 persons were sampled from the three inquiries, but two of these were sampled from three hearings and eleven persons were sampled from two hearings, giving 15 extra presentations sampled. A detailed description of the sampling methods used in the study can be found in the report on the content analysis referenced earlier.[1] See Diagram 1 in Section 2.5.4 below for the stages used to create the following study.

The study was subdivided into five separate areas and files: Cluff Lake formal, Cluff Lake locals, Key Lake formal, Key Lake locals and Warman. For the purposes of the follow-up study, however, the Key Lake formal and local samples were merged into a single sample group, although they can still be analysed separately.

2.5.1.1 Analysis of Transcript Sample by Residence

Two hundred and thirty-six (74.9%) of these sampled participants came from Saskatchewan and 79 (25.1%) were either from outside the province or their residence could not be determined from the inquiry reports.

The Saskatchewan group consisted of people from across the province. One hundred and one (32.1%) lived in either Regina or Saskatoon at the time of the inquiries. This group had their residence designated "urban." The residence of 46 (14.6%) who lived in Southern Saskatchewan but outside these larger cities was designated "rural."

Residence for the 89 (28.2%) who lived north of Meadow Lake and Prince Albert was designated "north."

---

[1] Jim Harding; Beryl Forgay; and Malcolm Harper, ***Ten Years Later: A Research report on the Follow-Up Study of Participants from Saskatchewan's Uranium-Related Inquiries 1977-1980, A Summary Report to the Participants,*** University of Regina, Prairie Justice Research, 1989.

Using these definitions, the transcript sample derived from the Cluff Lake formal hearing, which concentrated on technical and corporate evidence, was composed: 34.5% urban and 52.4% from outside Saskatchewan, but only 2.4% rural and 10.7% northern participation. The Cluff Lake local hearing sample which represented the participants in 14 northern communities and 9 southern ones had a different residence distribution: 23.7% urban, 27.8% rural, 46.4% northern and only 2.1% either from outside the province or of unknown residence.

The Warman Inquiry was held in Saskatoon and in the small rural community of Martensville. It encompassed both local community concerns and corporate technological submissions. Residence distribution of the transcript sample consisted of 40.6% urban, 24.6% rural, 31.4% either from outside the province or with undesignated residence, but only 2.9% northern.

The Key Lake Inquiry, both formal and local hearings, was held completely in northern Saskatchewan. None of the sampled participants were defined as southern rural, 30% of the 80 sampled participants were southern urban, 48.75% were from northern Saskatchewan and 21.75% were either from outside the province or did not have their residence designated in the report.

Table 2 below gives the detailed information about the residence of the 315 sampled participants included in the study of the transcripts. It should be noted that this breakdown in large part indicates the actual participation in these hearings. For example, very few northerners participated in the Warman Inquiry.

TABLE 2

Residence of Transcript Sample at the Time of the Inquiry

	Cluff Lake Formal # (%)	Cluff Lake Local # (%)	Warman Inquiry # (%)	Key Lake # (%)	Complete Sample* # (%)
Urban	29 (34.5)	23 (23.7)	28 (40.6)	24 (30.0)	101 (32.1)
Southern Rural	2 (2.4)	27 (27.8)	17 (24.6)	0 (0)	46 (14.6)
North	9 (10.7)	45 (46.4)	2 (2.9)	39 (48.75)	89 (28.2)
Other	44 (52.4)	2 (2.1)	22 (31.9)	17 (21.25)	79 (25.1)
TOTAL	84 (100)	97 (100)	69 (100)	80 (100)	315 (100)

* The figures in this column do not represent the sum of the other columns because a number of persons appeared in more than one inquiry.
(References: Computer Printouts - 11/27/87, #97, p.7; 11/30/87, #043, p.7.; 11/30/87, #057, p.5 and 11/30/87, #065, P.7.)

2.5.1.2 Analysis of Transcript Sample by Gender

The sampled participants included 253 men and 62 women: 80.3% to 19.7% respectively. There were, however, differences among the samples of the three inquiries. The analysis of the transcript sample for the formal proceedings in the Cluff Lake Inquiry was 89.3% men to 10.7% women. The Key Lake Inquiry sample is similar to the formal Cluff sample with 88.8% men to 11.3% women. The local hearing sample for Cluff Lake, on the other hand, had 73.2% men to 26.8% women. The Warman inquiry sample had 71% men to 29% women. Table 3 gives these details for the sample.

It is well to remember that while these figures indicate to some extent the relative participation of women among the three inquiries, the actual participation of women was even less in all three than the transcript sample shows. (See earlier description of sampling process).

TABLE 3

Gender of Transcript Study Sampled Participants

	Cluff Lake Formal # (%)	Cluff Lake Local # (%)	Warman Inquiry # (%)	Key Lake # (%)	Complete Sample* # (%)
Men	75 (89.3)	72 (74.2)	49 (71.0)	72 (90.0)	255 (80.95)
Women	9 (10.7)	25 (25.8)	20 (29.0)	8 (10.0)	60 (19.05)
TOTAL	84 (100)	97 (100)	69 (100)	80 (100)	315 (100)

* The figures in this column do not represent the sum of the other four because several persons appeared in more than one inquiry.

2.5.1.3 Analysis of Transcript by Ethnic Origin

Four categories were used to describe the ethnic background of the sample: Aboriginal and three Non-Aboriginal categories: French (meaning European French), German (also meaning European) and Other (referring to North American non-Aboriginal peoples and any others). These codes were required due to the active involvement of European multi-nationals and foreign uranium mining corporations in Saskatchewan and the presence of their officials at the inquiries.

Using these designations, 7.1% of the sampled participants from the formal Cluff Lake hearings were Aboriginal, 6% were French, 3.6% were German and 83.3% were Others. The composition of the sample from the local Cluff Lake hearings was 28.9% Aboriginal and 71.1% non-Aboriginal other than European French or German. The Warman sample had only 1.4% Aboriginal participants and the remainder were other

non-Aboriginal. The combined sample from the Key Lake hearings which were all held in northern Saskatchewan was comprised of 21.25% Aboriginal, 1.25% French and 77.5% non-Aboriginal participants. Table 4 gives the complete information about the ethnic distribution in each inquiry sample.

TABLE 4

Ethnic Original of Transcript Study Sampled Participants

	Cluff Lake Formal # (%)	Cluff Lake Locals # (%)	Warman Inquiry # (%)	Key Lake # (%)	Complete Sample* # (%)
Aboriginal	6 (7.1)	28 (28.9)	1 (1.4)	17 (21.25)	48 (15.2)
French	5 (6.0)	0 (0.0)	0 (0.0)	1 (1.25)	5 (1.6)
German	3 (3.6)	0 (0.0)	0 (0.0)	0 (0.0)	3 (1.0)
Other	70 (83.3)	69 (71.1)	68 (98.6)	62 (77.5)	259 (82.2)
TOTAL	84 (100)	97 (100)	69 (100)	80 (100)	315 (100)

* Some people appeared in more than one inquiry, so that figures in this column do not represent the sum of the other four.

2.5.2 Establishing a Target Population for the Follow-Up Study

The method used for contacting these sampled participants was a mailed questionnaire and an invitation to be interviewed. There were problems in locating addresses for participants, because addresses were not listed in the Inquiry reports.[1] The only clue to the address of each participant in these reports was the location of the hearing in which that person had participated. Additional identification for many was the name of the company, government department or organization with which that person was affiliated during his/her presentation. The lapse of six to nine years since publication of the reports and the transcripts added to the difficulties of tracing these people. It appeared unlikely that a high percentage of sampled participants would be located.

Previous studies reviewed by Heberlein and Baumgartner revealed that an overall average response rate of 48.1% with a single letter and 60.6% with a reminder might be all that could be expected once

---

1 Canada, Saskatchewan, Cluff Lake Board of Inquiry. ***Final Report of the Cluff Lake Board of Inquiry.*** Hon. Mr. Justice E.d. Bayda, chairperson. Regina, SK: Cluff Lake Board of Inquiry, 1978; Canada, Saskatchewan, Key Lake Board of Inquiry. ***Key Lake Board of Inquiry Report.*** Mr. Robert Mitchell, chairperson. Regina, SK: Key Lake Board of Inquiry, 1981; Canada, Eldorado Nuclear Limited. ***Environmental Impact Statement for a Urnaium Refinery in Corman Park R.M. Saskatchewan.*** Ottawa, ON: Eldorado Nuclear Limited, 1979.

addresses were found.[1]

For these reasons, it was decided that accessibility and willingness to participate, using the whole of the transcript sample from all of the inquiries (315) was the most practical approach. It was considered essential to start with this sample if the number of participants who actually could be located and were willing to participate was to be sufficient for comparative analysis.

Budget and time limitations dictated that interviews be confined to participants presently living in Saskatchewan. This decision eliminated 71 sampled participants whom the reports listed as coming from outside the province. (A later decision to use a mailed questionnaire for out-of-province inquiry participants did allow limited access to that segment as well.) Eleven others for whom there was no clue as to residence were also eliminated.

The pilot study underlined the wisdom of this procedure since only 62.2% of the addresses for a group of Regina participants had been found. After eliminating questionnaires returned because even the address which had been located had changed, only 46% of those in the pilot study could be assumed to have received the invitation to participate in the interviews. In view of the low rate of finding people residing in one location in the pilot project, it was to be expected that an even lower rate was likely when the more dispersed population of the main sample was to be tracked.

The final pilot study rate of 13 affirmative replies out of the 17 people found represented a 76.5% return rate with one reminder being used for 6 of these. This significantly higher return than the 62.6% predicted by the Heberlein and Baumgartner report corresponds with their finding that surveys of high interest to the respondent average a return of about 77%. The pilot study returns reinforced the hope that despite the interval of time, many of the respondents retained an interest in the inquiries and the issues surrounding uranium mining.

2.5.3 Tracing Follow-Up Participants

Local telephone, government employee, university and Henderson directories were used when possible to secure present addresses. Long distance operators and Public Libraries in cities and areas other than Regina assisted in determining whether participants not listed in these directories lived in the area surrounding the community listed in the Inquiry reports. Some employers of participants as well as organizations with which participants were affiliated helped locate others who had moved from their previous residence.

When only 169 were found through this extensive process, it was decided to try to contact

---

[1] Heberlein, Thomas A. and Baumgartner, Robert. "Factors Affecting Response Rates to Mailed Questionnaires: A Quantitative Analysis of the Published Literature" in ***American Sociological Review***, Vol. 43, No. 4 (August 1978) pp. 447-461.

participants now living outside the province and ask them to answer a questionnaire. In time 40 names and addresses of out-of- province people were secured.

Extensive time and energy was put into the tracing phase of the follow-up study to ensure that as large and representative a group as possible was included in the study and database.

2.5.4 Success and Failures in Tracing Participants

In total two hundred and nine (209) or 66.6% of the 315 sampled participants were invited by mail to take part in the follow up study (see Appendices 12 and 13). Twenty-six (26) of the invitations sent were subsequently returned because of incorrect addresses. The refusal of Canada Post to forward mail for longer than a month meant that several contacts were lost because of a move between the time the directories were issued and the attempted contact for the interview was made.

One hundred, eighty-three (183) people were assumed to have been contacted. This represented 58.1% of the sample participants. This success rate improved upon the pilot project result of 46%.

The greatest success in reaching people by mail occurred among the southern rural sampled participants where 41 addresses were found and only 6 were returned, a 67.3% location rate. The next most successful mailing was accomplished in northern Saskatchewan where 53 (63.1%) of the 84 sampled participants were assumed to have received the mailing. The poorest rate of locating people happened with the out-of-Saskatchewan group where 49.3% were assumed to have received the material mailed to them.

Table 5 details the experience of finding and contacting sampled participants by mail.

TABLE 5

Mailing Results for Follow-Up Study

SASKATCHEWAN INTERVIEW PHASE

	Total Transcript Sample of Participants	Invitations and Questionnaires		
		Mailed*	Undelivered	Assumed Received
Southern Sask. Rural	52	41 (78.8)	6	35 (67.3)
Southern Sask. Urban	108	66 (62.3)	6	60 (55.5)
Northern Sask.	84	62 (73.8)	9	53 (63.1)
SUB-TOTAL	224	169 (69.2)	21	148 (60.7)

OUT OF SASKATCHEWAN - QUESTIONNAIRE PHASE

	Total Transcript Sample of Participants	Invitations and Questionnaires		
		Mailed*	Undelivered	Assumed Received
Out of Saskatchewan	71	40 (56.3)	5	35 (49.3)
TOTAL Interview Phase	315	209 (66.4)	26	183 (58.1)

* NOTE: Figures in parenthese represent the percentage of sample participants in each category.

Of the 183 assumed to have received the invitation, 81 replied without further contact. Fifty-four (54) responded following either a telephone call or personal visit. The latter method was used most often in northern communities.

The best response rate came from the out-of-Saskatchewan mailing which included a full length questionnaire. A response rate from 20 out of 35 (57.1%) of those assumed to have received the questionnaire was attained without any reminder.

In southern Saskatchewan 45 (47.4%) of the people who were assumed to have received the mailing replied without any reminder. Telephone calls to remind people who did not reply worked well in many instances, with 33 more people successfully reached in this manner. This represented 42.3% of the 78 people with whom contact was made and increased the contact rate from 47.4% to 82.1% for southern Saskatchewan.

The response rate was lower in northern Saskatchewan. Of the 53 people sent invitations, only 16 (30.2%) replied. Telephone reminders were more difficult because not all people could be reached by telephone. Four of the northern sample were completely out of reach on trap-lines. Others had no phone in their homes. Personal contact by calling on people had some result. However, the fact that the north is vast and the interviewer could not spend a great length of time in each of the northern communities, meant that people who were not at home and required numerous calls back in order to find them, often were not located. In spite of the difficulties, 20 additional sampled participants were eventually found in this manner. The discovery that people had moved from their community in the north to a southern city or visa versa meant that a few participants were contacted by the other interviewer instead of the one who originally had that responsibility. Thus two people listed on the southern list were interviewed by the northern interviewer and three northern participants were interviewed in the south.

The difficulties of distance and occasionally severe weather and impassable roads had their effect on the rate of interviews completed in the north. In two instances poor road and weather conditions prevented the interviewer from making the necessary trip to a small community for an scheduled interview. In two others, plans to meet for interviews were abandonned because of subsequent commitments on the part of the participants. In one other no reason was given for not keeping an appointment. Busy schedules of a teacher and a social worker during the time that the interviewer was able to devote to their community precluded those interviews. Four others did not wish to be interviewed either because they believed that they had forgotten the details or for no given reason. The problems in the southern part of Saskatchewan were fewer and centered mainly on the difficulty of not being able to reach people at a home phone number and not knowing where they worked.

In summary, **114 Saskatchewan people were directly contacted through mailing, telephones or personal visits. Another 20 from out of the province gave a total of 134 sampled participants, creating a response rate of 73.2% of those assumed to have received the invitation to participate in the the follow-up study.**

Table 6 details the response rate of those receiving the invitation to participate in the follow-up study.

TABLE 6

Response Rate from People Contacted

SASKATCHEWAN INTERVIEW PHASE

	Assumed Received	Number (and Percent of People Replying)		
		Replied - No Reminder*	Replied - Telephone or visit Reminder*	Total Replies
Southern Contacts	95	41 (47.4)	33 (37.7)	78 (82.1)
Northern Contacts	53	16 (30.2)	20 (37.7)	36 (67.9)
SUB-TOTAL (Total Sask. Mailing Received)	148	61 (41.2)	53 (35.8)	114 (77.0)

OUT-OF-SASKATCHEWAN - QUESTIONNAIRE PHASE

	Assumed Received	Number (and Percent of People Replying)		
		Replied - No Reminder*	Replied - Telephone or visit Reminder*	Total Replies
Mailing Received	35	20 (57.1)	0 (0.0)	20 (57.1)
TOTAL of all Contacts	183	81 (44.3)	53 (29.0)	134 (73.2)

* Figures in parentheses represent the percentage of the sampled participants who were assumed to have received the mailing.

Of the 134 contacted, 28 either preferred not to, or found it impossible to participate, **leaving 106 who were either interviewed (90) or who answered the mail-out questionnaire (16). This figure represents 33.7% of the sampled participants used in the main study and 57.4% of those assumed to have received the request to participate in the interview phase of the study.** (See Table 7 for more detail). No attempt was made to differentiate the three inquiries at this point, in part, because some of the inquiry participants had attended more than one inquiry.

TABLE 7

Rate of Follow-Up Participation

SASKATCHEWAN INTERVIEWS

	Assumed Received (1)	Total Contacted (2)	Would/Could Not be Interviewed or Answer Questn. % of (2)	Were Interviewed or Answered the Questionnaire % of (2) % of (1)	% of Total Sample (315)
Southern Contacts	95	78	11 (14.1)	67 (85.9) (70.5)	(45.6)
Northern Contacts	53	36	13 (36.1)	23 (63.8) (43.4)	(25.8)
SUB-TOTAL	148	114	24 (21.1)	90 (78.9) (60.8)	(38.1)

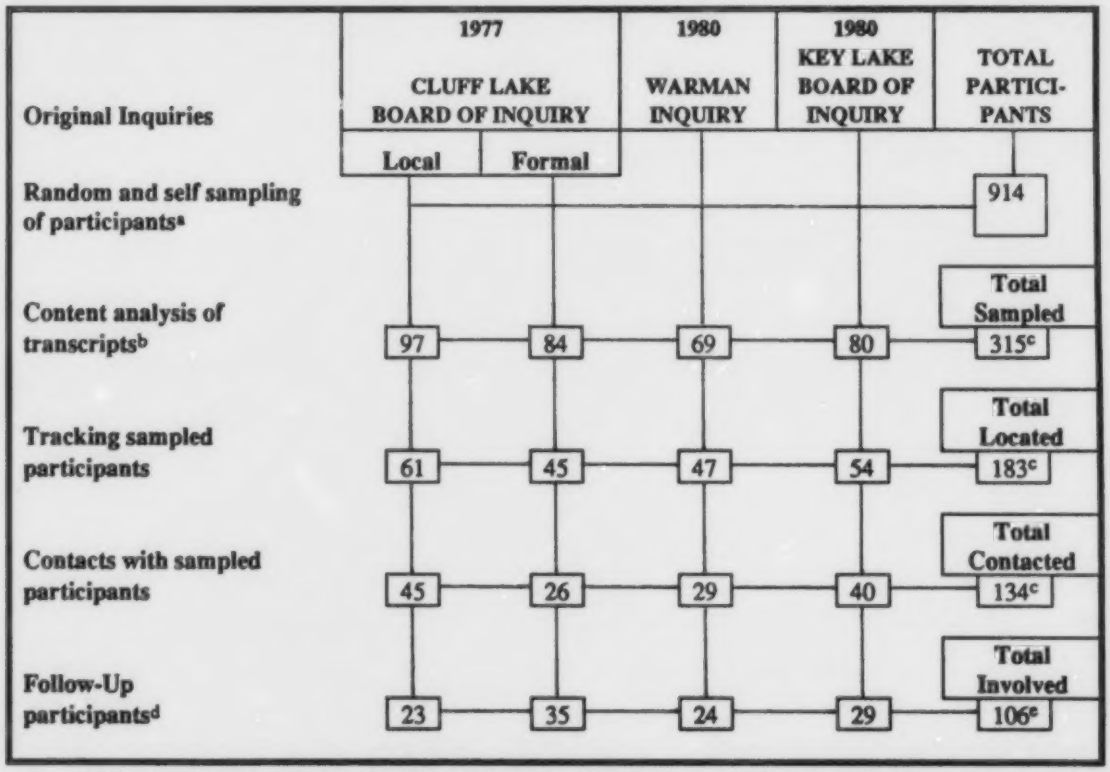
OUT-OF-SASKATCHEWAN - QUESTIONNAIRES

	Assumed Received (1)	Total Contacted (2)	Would/Could Not be Interviewed or Answer Questn. % of (2)	Were Interviewed or Answered the Questionnaire % of (2) % of (1)	% of Total Sample (315)
Out of Saskatchewan Contacts	35	20	4 (20.0)	16 (80.0) (45.7)	(20.2)
TOTAL CONTACTS	183	134	28 (20.9)	106 (79.1) (57.9)	(33.7)

See also Diagram 1 below for the relationship between the inquiries' participants, the Transcript Study Sample and the Follow-Up Study Sample.

DIAGRAM 1

Relationship of Follow-Up Sample to Transcript Study Population



a) Random sampling was undertaken when the position of the participants was not crucial to the sampling process. Sampling was done in such a way that larger percentages of smaller groups (e.g., women, Aboriginal people) were obtained in the sample. Self-sampling was done when the position (e.g., on the panel, in the government, an organization) made it mandatory that the person be included in the sample.

Continued on next page.....

b) These were the sampled participants from the transcript study. There were also many more discreet speakers in the sample from each inquiry (e.g., 269 from the CLBI).

c) Does not equal the totals from each inquiry because some individuals were in more than one inquiry.

d) These are the numbers from each inquiry who could be located and agreed to participate in the follow-up study. The results from the follow-up study of these sampled participants were then compared with their results from the transcript analysis.

e) This total also does not equal the total of the three inquiries because some individuals participated in more than one inquiry. Ninety (90) from in-province interviews and 16 from out-of-province questionnaires constitutes 33.7% of sampled participants and 57.9% of those located.

2.6 Creation of the Invitations, Preliminary Questionnaire, Interview Guide and Mail-out Questionnaire

2.6.1 Invitations and the Preliminary Questionnaire

A letter was drafted briefly describing the project and the interview phase together with a two-page questionnaire. The questionnaire was designed to be answered quickly and to be returned in a stamped, self-addressed envelope. It requested information about which inquiry hearings were attended, the past and present attitude toward the project assessed in the inquiry and whether the respondent would be willing to be telephoned to make an appointment for an interview. Copies of the letters of invitation and the preliminary questionnaires may be found in Appendix 12.

2.6.2 The Interview Guide

2 .6.2.1 The Content

The four main goals of the project were addressed through questions in the guide which the interviewer used.

The first goal was to obtain a first-hand impression of the inquiry process. Eleven questions asked about remembered feelings and experience regarding: the fact that the inquiry was called, the choice of panelists, the organization of the inquiry, the individual treatment of the participant in the inquiry, the perceived treatment of others in the process and public interest in the inquiry. Four questions were also asked about the effect of the inquiry on public policy in the years since the inquiries.

The second goal was to establish first-hand each person's overall attitude toward the uranium project, and to amplify the view through questions about various aspects of the project. Four general questions about personal concerns about the project at the time of the inquiry were asked, followed by ten questions referring specifically to topics which had been noted in the transcripts, and were used for the content analysis. These addressed:

1) economics of the project;
2) effect of the project on northern Saskatchewan residents;
3) energy importance of the project;
4) safety aspects of the project; and
5) regulatory role of the government with regard to uranium projects.

A last question asked about the relative importance of the topics to the participant.

The third goal was to capture any change in attitude or concerns over time. Two general questions were asked regarding personal concerns at the present time. Then the same ten questions addressing specific topics were repeated with reference to the present time.

The final goal was to assess the overall attitude toward science and technology. Six questions were asked which it was thought could elicit underlying beliefs. These questions may all be found in Appendix 11. In all cases the questions were presented orally to the participant and his/her answers were noted by the interviewer.

2.6.2.2 Question Style

Since it was desired to see whether there were interconnections among the individual's views of the inquiries and the uranium projects, open-ended questions which gave as little prompting as possible were used. These were preferable to simple one word or multiple choice questions which might tend to direct the person's answers along predetermined lines.

As already stated, after the pilot study the questions were reviewed again for clarity and effectiveness. Changes were made in several questions as discussed in section 2.4. A similar process of review with the northern interviewer led to several other wording changes to ensure simple, clearer language. (See Appendix 10 and 11 for first and last draft of Interview Guide).

2.6.2.3 The Interview Appointment Procedure

When the telephone call for an appointment was made, the interviewer explained that the interview could last up to an hour and attempted to find a mutually agreeable location where interruptions could be avoided.

2.6.3 The Mail-Out Questionnaire

It was decided that too lengthy a questionnaire would decrease returns, yet it was desirable to elicit as much of the same information gained from the interviews as possible. A 7-page questionnaire with a combination of open-ended and multiple choice questions was designed as a compromise. It was hoped that it

would encourage a busy person to answer, yet give a summary of each respondent's view of the inquiry process; find out each attitude toward the project both at the time of the inquiry and at present; and elicit major concerns. Information about occupation, residence and ethnicity was also asked in order to confirm or amplify information gleaned from the transcripts. Finally, a multiple choice question invited the participant to explain the basis for opinions on the topics.

As stated above, the decision to include the out-of-province population from the sample was made due to the relatively small number of Saskatchewan people contacted, and because it broadened the scope of comparisons. There was, however, not time to do a separate pilot study using the mail-out questionnaire.

After its preparation, it was tested on other project researchers and discussions led to a few revisions. (A copy of the final mail-out questionnaire may be found in Appendix 13.)

2.6.4 The Flow Sheet

A flow sheet was designed for the interviews. It had space for: name, address, telephone number, dates of the mail-out, reply, returns of undelivered mail, telephone calls, personal contact and interview, interviewer number, declared attitude (4 categories), coding date, coder number, whether a report was requested and date report was sent. There was also limited space for remarks (see Appendix 14).

2.7 The Interviews

The vast majority of the respondents were interviewed in person using the prepared interview guide. One participant agreed to a telephone interview. The interviewers attempted as much as possible to be open and receptive during interviews in order to secure an honest and full commentary from each respondent. They were directed to take a lively, non-judgemental interest in all views put forth in order not to inhibit their expression, and to give respondents as much time to answer each question as that person wished to take. Questions were designed to be as open as possible, but clear enough to be understood. When necessary the interviewer was allowed to rephrase questions if it appeared that their meaning needed clarification. Notes were taken as fully as possible of the answers from each respondent to allow later coding.

The interviewer in the North took full notes and also taped thirteen northern interviews. (See Appendix 15 for Consent Form.) This procedure helped to maintain the accuracy and consistency of later coding of the interviews since coding of these interviews was completed by a person other than this interviewer. Accuracy of meaning can sometimes be lost if only notes are transferred from one interviewer to another. Taping was also deemed necessary in order to try to reduce any cross-cultural misinterpretations during the coding process.

3. PROFILE OF PARTICIPANTS AND NON-PARTICIPANTS OF FOLLOW-UP STUDY

3.1 Profile of Contacted Participants

3.1.1 Residence of All Contacts in Follow-Up Study

The largest number of sucessfully traced participants from the transcript sample lived in southern Saskatchewan at the time of the inquiries. Somewhat fewer were traced in northern Saskatchewan and the smallest group was from outside the province.

This is true in absolute numbers as seen from Table 8, but also in percentages of traced participants to original sample. Fifty-eight and four tenths percent (58.4) of the southern urban sample was traced. Compared to 49% of the southern rural sample, 45.9% of the northern sample, but only 24.4% of the sample from outside the province.

TABLE 8

Residence of All Follow-Up Contacts at the time of the Inquiries

Residence at Time of Inquiry	South Urban	South Rural	North	Non-Sask.	Non-Canadian	TOTAL
South Contacts	51	19	8	0	0	78
North Contacts	3	4	30	0	0	36
Out of Saskatchewan Questionnaire	5	0	1	13	1	20
TOTAL	59	23	39	14		134

3.1.2 Gender of All Contacts in Follow-Up Study

The gender-ratio of all those contacted was 74.6% men to 25.4% women. Slight variations between the northern contacts, the southern ones and the mailed questionnaire (out-of-province) segment are noted in Table 9. This shows a slightly higher contact rate for women in the northern part of the province than in the other segments.

TABLE 9

Gender of All Follow-Up Contacts

	Total	# Male	% Male	# Female	% Female
North Contacts	36	26	72.2	10	27.8
South Contacts	78	59	75.6	19	24.4
Out of Province Questionnaire	20	15	75.0	5	25.0
TOTAL	134	100	74.6	34	25.4

3.1.3 Ethnic Origin of All Contacts in Follow-Up Study

The vast majority of those contacted were non-Aboriginal (106) with only 28 Aboriginal participants successfully contacted. See Table 10.

TABLE 10

Ethnic Origin of All Follow-Up Contacts

	Non-Aboriginal English-Speaking	Aboriginal	Other	Total
Southern Segment	77 (98.7)	1 (1.3)	0	78 (100%)
Northern Segment	9 (25.9)	27 (75.0)	0	36 (100%)
Out of Province Questionnaire	20 (100)	0	0	20 (100%)
TOTAL	106	28	0	134

3.2 Contacts Who Did Not Participate in Follow-Up Study

Table 11 gives the figures and percentages of those who were contacted, but could or would not be interviewed or did not reply to the questionnaire.

TABLE 11

Contacts Who Did Not Participate in Follow-Up Study

	Total	Number of Non-Participants	Percentage
North Contacts	36	13	36.1
South Contacts	78	11	4
Outside Province	20	4	20.0
TOTAL	134	28	20.9

Observations by the interviewers may shed some light on the reasons for people not responding in the affirmative to a request for an interview/questionnaire about an event in which they took part. These included such things as:

a) North — Unavailable to be interviewed/other pressing concerns (4 persons); travel conditions - roads/ weather (2 persons);

b) South — Need for civil servants and ex-civil servants to appear neutral (3 persons); civil servants forbidden to participate (1 person);

c) Questionnaire — Some civil servants answering considered participation inappropriate (2 persons); wrong family member answered (1 person); no name or identification given and could not be coded (1 person); insufficient interest, procrastination, no reminder;

d) Others — No reason given (4 persons); fear of unreliable memory (3 persons); no strong opinions about inquiry, desire to forget inquiry, fear of use of research, no longer current issue, declined, death.

3.2.1. Contacts Who did Not Participate: Distribution by Inquiry

Table 12 shows the distribution of uninterviewed contacts across the different inquiries and hearings. The group who had the largest percentage of contacts not participating were from the Key Lake Board of Inquiry. The group who had the smallest percentage of non-participants was from the Warman hearing.

TABLE 12

Distribution by Inquiry of Contacts Who Did Not Participate in the Follow-Up Study

	CLBI Formal	CLBI Local	Warman	KLBI	Total
North	0	8	0	5	13
South	4	2	4	5	11[a]
Total in Province	4	10	4	10	24[a]
Total Outside Province	2	0	1	1	4
TOTAL	6	10	5	11	28[a]
Percentage of contacts from each transcript study who did not participate	20.6%	20.4%	17.2%	28.2%	26.4%[a]

a) These totals do not represent the sum of the previous columns because some of the contacts had appeared at more than one inquiry.

3.2.2 Residence of Contacts Who Did Not Participate

Table 13 shows the distribution of the uninterviewed/unquestioned contacts from the north, south and out of province. The largest group was clearly from the north, then the urban south, and finally the rural south and out of province.

TABLE 13

Previous Residence of Contacts Who Did Not Participate in the Follow-Up Study

	North # (%)	South Urban # (%)	South Rural # (%)	Ouside Sask. # (%)	Total # (%)
Northern Contacts	13 (100)	0 (0)	0 (0)	0 (0)	13 (100)
Southern Contacts	1 (9.1)	7 (63.6)	3 (27.3)	0 (0)	11 (100)
Mailed Questionaires Contacts	0 (0)	1 (25.0)	0 (0)	3 (75)	4 (100)
TOTAL Who Were Not Questioned	14 (50)	8 (28.6)	3 (10.7)	3 (10.7)	28 (100)
% of All Contacts 134	(10.4)	(6.0)	(2.2)	(2.2)	(20.8)

3.2.3 Gender of Contacts Who Did Not Participate

The gender ratio of those who would not or could not be interviewed or who declined to answer the questionnaire differed according to where they resided, as shown in Table 14. There was a lower rate of participation among males than females contacted compared to the gender breakdown of the sample participants.

TABLE 14

Gender of Contacts Who Did Not Participate in the Follow-Up Study

	Total Contacts Unquestioned # (%)	Male # (%)	Female # (%)
North Contacts	13 (100)	10 (77.9)	3 (23.1)
South Contacts	11 (100)	11 (100)	0 (0)
Outside Province	4 (100)	3 (75.0)	1 (25.0)
TOTAL	28 (100)	24 (85.7)	4 (14.3)

3.2.4 Ethnic Origin of Contacts Who Did Not Participate

Most problems occurred in obtaining interviews with northern Aboriginal participants. Twelve of the thirteen people in the northern sample with whom the northern interviewer was in contact but could not interview were of native ancestry. Table 15 gives these details. Though fewer than the non-Aboriginal people contacted, but not participating, this number still constitutes a much higher percentage of Aboriginal than non-Aboriginal people in the original sample.

It must be remembered, however, that many of these northern Aboriginal people did not refuse to be interviewed. Conditions of roads and weather as well as more pressing concerns were often the reason for having to abandon a tentative interview. Other appointments were missed because persons to be interviewed could not fit the interview into their own busy schedule during the time the interviewer had in their area, or had a subsequent urgent reason to miss the appointment. Of the remaining group of contacts who did not participate, two considered themselves too old to remember the happenings reliably, and two others refused to take part without giving a reason.

It should also be noted, however, that the northern interviewer encountered some skepticism about the study. From a northern Aboriginal perspective a research project housed in the University of Regina, in the province's capital, could very easily be indistinguishable from other southern interests which are often out of touch with northern realities. In order to try to explain the study, during the time that northern interviews

were being sought, the northern interviewer and the principal investigator were able to describe the objectives and independence of the research on a CBC northern radio interview. Whether or not this had any effect on gaining co-operation in the follow-up study of northerners cannot be determined.

TABLE 15

Ethnic Origin of Contacts Who Did Not Participate in the Follow-Up Study

	Total Contacts Unquestioned # (%)	Aboriginal # (%)	Non-Aboriginal # (%)
North Interviewer	13 (100)	12 (92.3)	1 (7.7)
South Interviewer	11 (100)	0 (0)	11 (100)
Outside Province	4 (100)	0 (0)	4 (100)
TOTAL	28 (100)	12 (42.9)	16 (57.1)

3.3 Profile of Follow-Up Participants

3.3.1 Inquiry Participation

Both the Cluff Lake and Key Lake inquiries had formal hearings to which "expert" witnesses were invited. These people came from cities in southern Saskatchewan but also from other parts of Canada and beyond. The informal or local hearings tended to attract people who lived nearer to the projects so were largely from Saskatchewan, from both rural and urban south and from the north.

To some extent these segments of the population are polarized in the follow-up study in that the mail-in questionnaire was most often answered by people outside the province who had been involved with the formal inquiries except in a few cases where they were people who had moved away from the province.

The Cluff Lake hearings were held throughout the province in 1977. Participants from the formal hearings were represented in the follow-up study largely by southerners (14) and out-of-province people (7), with only two from the north. Participants in the local hearings were represented in the follow-up study largely from the south, both rural and urban (22) but also by 12 northerners.

The Eldorado (Warman) Refinery hearings held near Saskatoon in 1980 had only one follow-up participant found in the north but 4 from outside Saskatchewan and the remaining 19 from the south.

The Key Lake hearings of 1980 were held exclusively in northern Saskatchewan and the follow-up study found 14 of the 29 interviewees in the north, 11 in the south and 4 outside Saskatchewan.

Table 16 details this distribution.

TABLE 16

Distribution of Follow-Up Participants by Follow-Up Segment and Inquiry

Follow-Up Segment	Cluff Lake Formal # (%)	Cluff Lake Local # (%)	Warman Inquiry # (%)	Key Lake # (%)	Total Respondents* # (%)
Southern Interviews	14 (20.9)	22 (32.8)	19 (28.4)	14 (20.9)	67 (100)
Northern Interviews	2 (8.7)	12 (52.2)	1 (4.3)	11 (47.8)	23 (100)
Outside Province Questionnaire	7 (43.8)	1 (6.2)	4 (25.0)	4 (25.0)	16 (100)
TOTAL for each Inquiry	23 (21.7)	35 (33.0)	24 (22.6)	29 (27.4)	106 (100)

* This column of figures does not represent the sum of the others because a number of people participated in more than one inquiry.

3.3.2 Residence and Inquiry

As shown in Table 17, forty-seven percent (47%) of all the follow-up participants were listed as southern urban residents at the time of the inquiries. Almost 19% were considered southern rural residents, and 24.5 % as northern residents at that time. Another 9.4% of the participants were from out-of-province at the time of the inquiries.

TABLE 17

Follow-Up Participants by Residence At the Time of the Inquiry

	Cluff Lake Formal # (%)	Cluff Lake Local # (%)	Warman Inquiry # (%)	Key Lake # (%)	Total Respondents* # (%)
Southern Urban	15 (65.2)	11 (31.4)	14 (58.3)	12 (41.4)	50 (47.2)
Southern Rural	0 (0)	11 (31.4)	8 (33.3)	1 (3.54)	20 (18.9)
Northern	2 (8.7)	13 (37.1)	1 (4.2)	13 (44.8)	26 (24.5)
Outside Province	6 (26.1)	0 (0)	1 (4.2)	3 (10.3)	10 (9.4)
TOTAL	23 (100)	35 (100)	24 (100)	29 (100)	106 (100)

* This column of figures does not represent the total of each column because some respondents had participated in more than one inquiry.

The largest single group involved in the follow-up study (15) had been southern urban residents who participated in the Cluff Lake formal hearings. They represented 65.2% of all CLBI formal participants in the follow-up. This percentage is not surprising since the original composition of the CLBI formal hearings was heavily weighted towards southern urban residents and out-of-province participants (see Table 17). The fact that this group is overrepresented in the follow-up study is shown by comparing the original sample with the follow-up participants (see Table 18.) This comparison also shows that the out-of-province participants in this segment of the CLBI were underrepresented in the follow-up study.

TABLE 18

Comparison of the Transcript Sample to the Follow-Up Participants of the Cluff Lake Formal Hearings by Residence

Residence at Time of Inquiry	CLBI Formal Transcript Sample # (%)	CLBI Formal Follow-Up # (%)	% of CLBI Formal Transcript Sample in Follow-Up Study
Southern Urban	31 (36.9)	15 (65.2)	48.4
Southern Rural	2 (2.4)	0 (0)	0.0
Northern	7 (8.3)	2 (8.7)	28.6
Outside Province	44 (52.4)	6 (26.1)	13.6
TOTAL	84 (100)	23 (100)	27.4

With regard to the Cluff Lake local hearings, the original transcript sample had been composed of 46.4% northern residents and a fairly even distribution of southern urban and rural residents (23.7% and 28%) (see Table 19). Together the two southern groups totaled 52.6%. The follow-up participants, on the other hand, were 62.8% southern and 37.1% northern residents. This shows how a southern, both urban and rural, bias may enter into this province-wide follow-up study.

TABLE 19

Comparison of the Transcript Sample and the Follow-Up Participants from the CLBI Local Inquiry by Residence

Residence at Time of Inquiry	CLBI Local Transcript Sample # (%)	CLBI Local Follow-Up # (%)	% of CLBI Local Transcript Sample in Follow-Up Study
Southern Urban	23 (23.7)	11 (31.4)	47.8
Southern Rural	28 (28.9)	11 (31.4)	39.3
Northern	45 (46.4)	13 (37.1)	28.9
Outside Province	1	0 (0)	0 (0)
TOTAL	97 (100)	35 (100)	36.1

As shown in Table 20, the transcript sample of the Warman Inquiry was heavily urban. Although 26% were rural participants, this was less than the 29% for the out-of-province group which, for the most part, represented technical witnesses associated with the uranium industry or government. The follow-up rate of 33.3% rural was due to the high success rate in tracking rural participants from the inquiry as well as low returns from out-of-province inquiry participants.

TABLE 20

Comparison of the Transcript Sample and the Follow-Up Participants from the Warman Inquiry by Residence

Residence at Time of Inquiry	Warman Transcript Sample # (%)	Warman Follow-Up # (%)	% of Warman Transcript Sample in Follow-Up Study
Southern Urban	30 (43.5)	11 (45.8)	36.7
Southern Rural	18 (26.1)	8 (33.3)	44.4
Northern	1 (1.4)	1 (4.2)	100.0
Outside Province	20 (29.0)	4 (16.7)	20.0
TOTAL	69 (100)	24 (100)	34.8

As shown in Table 21, in the Key Lake inquiry the largest percentage of the transcript sample (48.8%) came from the north. The follow-up participants were nearly equally from the south and north. Almost all of these southern participants were from the urban south.

TABLE 21

Comparison of the Transcript Sample and Follow-Up Participants from the Key Lake Inquiry by Residence

Residence at Time of Inquiry	Key Lake Transcript Sample # (%)	Key Lake Follow-Up # (%)	% of Key Lake Transcript Sample in Follow-Up Study
Southern Urban	23 (28.8)	12 (41.4)	52.2
Southern Rural	1 (1.3)	1 (3.4)	100.0
Northern	39 (48.8)	13 (44.8)	33.3
Outside Province	17 (21.2)	3 (10.3)	17.6
TOTAL	80 (100)	29 (100)	36.3

Table 22 shows the comparison by the residence of participants at the time of the inquiries. From this it can be seen that the out-of-province participants are under-represented, while the urban participants are over-represented. There is also a slight over-representation of the rural participants and under-representation of the northern groups.

TABLE 22

Comparison of Follow-Up Participants to Transcript Sample by Residence at the Time of the Inquiry

Residence at Time of Inquiry	Complete Sample # (%)	Interview/Question-naire Follow-Up # (%)	% of Complete Sample
Southern Urban	101 (32.1)	47 (44.3)	46.5
Southern Rural	49 (15.5)	20 (18.9)	40.8
Northern	86 (27.3)	26 (24.5)	30.2
Outside Province	79 (25.1)	13 (12.3)	16.5
TOTAL	315 (100)	106 (100)	33.7

3.3.3 Gender

The proportion of men to women contacted was 74.6% to 25.4% respectively. As shown in Table 23, the percentage of those actually interviewed or who answered a questionnaire shifted slightly to 71.7% men and 28.3% women. This compares to 80.95% men and 19.05% women in the transcript sample.

TABLE 23

Gender of Participants in Follow-Up Study

	Total	Male # (%)	Female # (%)
Southern Interviews	67	48 (71.6)	19 (28.4)
Northern Interviews	23	16 (69.6)	7 (30.4)
Outside Province Questionnaire	16	12 (75.0)	4 (25.0)
TOTAL	106	76 (71.7)	30 (28.3)

As shown in Table 24, the gender distribution of the follow-up sample differed among the inquiries. The follow-up of the CLBI local hearings provided the largest percentage of women (15 or 42.9% of those from these hearings) and half the women involved in the whole follow-up study. The Warman hearings also provided a relatively large group of women (10 or 41.7% of those found from that inquiry). The Cluff Lake formal follow-up had only 4 women and the Key Lake follow-up, only 3 or 10.3% of those who had taken part in the Key Lake Inquiry. This, in part, reflects the actual gender composition of the hearings. Female participation was low in the CLBI formal hearings and the Key Lake Board of Inquiry. The latter may have been due to the boycott of that inquiry by opponent groups, since those groups tended to involve women in equal or larger amounts than men.

TABLE 24

Gender of Follow-Up Participants by Inquiry

	Cluff Lake Formal # (%)	Cluff Lake Local # (%)	Warman Inquiry # (%)	Key Lake # (%)	Complete Follow-Up Sample* # (%)
Men	19 (82.6)	20 (57.1)	14 (58.3)	26 (89.7)	76 (71.7)
Women	4 (17.4)	15 (42.9)	10 (41.7)	3 (10.3)	30 (28.2)
TOTAL	23 (100)	35 (100)	24 (100)	29 (100)	106 (100)

Table 25 shows that a greater percentage of women were represented in the follow-up study than in the transcript sample. Half of the female participants from the transcript sample were found and took part in the follow-up study. Fewer than one-third of the men sampled for the transcript study were located and participated in the follow-up. This should enhance the generalizeability of the gender comparisons made in this study.

TABLE 25

Comparison of Follow-Up Participants With Transcript Sample on the Basis of Gender

	Transcript Sample # (%)	Interview/Questionnaire Follow-Up # (%)	% of Follow-Up Sample
Men	255 (81.0)	76 (71.7)	29.4
Women	60 (19.0)	30 (28.3)	50.0
TOTAL	315 (100)	106 (100)	33.7

3.3.4 Ethnic Origin

Table 26 indicates that although no French or German sampled participants from the transcript study were located, the ethnic distribution of Aboriginal to non-Aboriginal participants was close to the transcript ratio with each representing approximately one-third of the transcript sample.

TABLE 26

Comparison of Distribution of Follow-up Participants To the Sample on the Basis of Ethnic Origin

Ethnic Origins	Transcript Sample # (%)	Follow-Up Sample # (%)	% of Transcript Sample in the Follow-Up Study
Aboriginal	50 (15.9)	16 (15.1)	31.3
French	5 (1.6)	0 (0)	0 (0)
German	3 (1.0)	0 (0)	0 (0)
Other	257 (81.6)	90 (84.9)	35.0
TOTAL	315 (100)	106 (100)	33.7

3.3.5 Attitude Toward Uranium Project

Based on the attidude of the 106 participants toward uranium projects during the inquiries, as remembered during the follow-up study (as shown in Table 27), the follow-up study was able to obtain participation from all three main attitudes categories.

TABLE 27

Attitude Grouping of Follow-Up Participants
At Time of Inquiry as Rememberd During Follow-Up Study

Attitude Category	#	%
Unconditional Proponent (Uncond. Pro.)	38	35.8
Conditional Proponent (Cond. Pro.)	1	0.9
Neutral	9	8.5
Moratorium	27	25.5
Unconditional Opponent (Uncond. Opp.)	31	29.2
TOTAL	106	100.0

4. THE CODING PROCESS

4.1 Expansion of the Codebook

The more than 400 codes, representing major and minor themes, attitudes and other attributes devised for (and tested with) the content analysis of the uranium transcripts were also used for the follow-up study. This continuity was essential to allow comparisons of the follow-up study with the transcript study and to create a uniform database for further extensive analyses.

For the most part, the original codes were sufficient to code the follow-up interviews and questionnaires. However, due to the intentionally broader scope of the follow-up interviews and changed circumstances since the public inquiries, some new codes were added.

The added codes were limited to two kinds: 1) a few specific affiliation and occupation identifiers, and 2) minor themes. Since the present analysis in this study is based solely on attitudes, major (not minor) themes and groups of identifiers, these changes do not influence the comparisons between the transcript and follow-up studies.

The additional minor theme codes are shown in the revised codebook in Appendix 16. The additions in minor themes are as follows:

- Provincial Economy: 5 pairs of codes - 116 to 120, 166 to 170
- Northern Development: 3 pairs of codes - 216 to 218, 266 to 268
- Energy Policy: 1 pair of codes - 313 and 363
- Ecology and Technology: 4 pairs of codes - 417 to 420, 467 to 470
- Science and Knowledge: 4 pairs of codes - 515 to 518, 565 to 568
- Inquiry Process: 9 pairs of codes - 620 to 628, 670 to 678
- Regulatory Process: 2 pairs of codes - 711 to 712, 761 to 762

These 56 additional minor theme codes reflect 28 opposing pairs of themes which complement the makeup of the original codebook. The changes which were needed to code specific answers of follow-up participants resulted from various events or changes. These included the change in provincial government, changed conditions in the north, the Chernobyl reactor accident, growing public support for environmental protection and charges to the regulatory systems put in place since the inquiries. Since the greatest number of new minor codes (32%) deal with the inquiry process, they appear to reflect a consolidation of participants' afterthoughts about the inquiries.

Unfortunately this report is not able to analyze minor themes.

4.2 The General Process

The coding of interview results was done by the researcher who did the southern interviews and who had a full year of direct experience with the designing and implementing of the coding during the transcript

transcript study. During this process she was in close consultation with another researcher, who was also a coder in the transcript study.

The consistency of the coding by coders was a focus of the earlier transcript study and is documented in the first report to the SSHRC.[1] With only one coder for the follow-up study, this process was less urgent; however, about mid-way through the coding of the follow-up study, the second researcher (also a past coder) coded both a northern and a southern interview to cross-check with the coding of the main coder.

The coding was done on the same basis as the transcript coding, using the same basic instructions and guidelines developed for the earlier study. (These instructions are included in the first report to the SSHRC on this project.)[2] For example, each time an attitude about the uranium project was expressed it was coded, since frequency was considered a reflection of the importance to the participant. Definitions and distinctions which were basic to the original study - such as between "unconditional" and "conditional" attitudes, and "major" and "minor" themes - were maintained. If viewpoints were expressed which pertained to codes dealing with predictions, backing, etc., they were used. The same code sheet was used for the follow- up as was used for the transcript study (see Appendix 17.)

The differences in both the context and foundation of the transcript and interview coding requires careful attention. During the transcript coding the coders were "interacting" with the pages of transcript artifacts of the participant, not with the participant. Though this limited their ability to clarify and code in more depth, it did allow coding of interactions among participants and panelists within the inquiry process.

The fact that there was direct interaction with the participant during the interviews in the follow-up study, and the fact that the questions were designed to probe broad-based issues, means that more detailed and extensive coding was possible than with the transcripts. However, since the budget and timespan of the follow-up project did not allow for transcripts of interviews to be created (even with the ones taped from the north), the coding of interviews did not allow for as careful an assessment of the actual wording used by the participant.

The exception to this may be observed in the coding of northern interviews which were double-checked against the tapes and with the northern interviewer, building a quality control into the coding of that segment which was comparable to that provided by the ability to go over actual transcripts. In addition these codes were double checked with the other coders involved in the content analysis. We will be in a better position to comment on these "quality control" issues after comparing transcript and follow-up coding, especially the remembered views (thinking back to the inquiries) from the interviews.

The coding of the mailed out questionnaires was completed in the same manner as for the transcripts and interviewing, but the limits on the length (7 pages) and the inability to clarify views and codes, created a slightly different coding context. Fewer codes were expected. This would tend to skew in- and out-of-

---

[1] Jim Harding, Report to SSHRC, Strategic Grants, Human Context of Science and Technology, University of Regina, Prairie Justice Research, January 20, 1986, p.33-43.

[2] Ibid., 25-36.

slightly different coding context. Fewer codes were expected. This would tend to skew in- and out-of-province comparisons involving participant and association groups, especially in the area of minor themes. This was not a factor in the analyses reported here, however, because the questionnaire contained explicit questions which allowed easy coding of the attitudes and major themes which are discussed below.

4.3 Coding of Northern Interviews

The collection and coding of the northern participants' views involved two researchers instead of just one as in the south. The northern interviewer's duties included finding and recording her interviews with northern participants. The coder in the south then transferred the opinions and statements from the interview into numerical codes.

It was necessary to take extra precautions so as not to lose or misinterpret any meaning or ideas presented by participants. These precautions took three forms. First, the northern interviewer spent several days with the Regina-based researchers before starting her assignment in order to become acquainted with the project and with the coding system and its procedures. She was not required to learn the entire catalogue of codes, just to understand the method and general content of the system.

Second, if consent was given, her interviews were taped. Thirteen of the 16 interviews were recorded in this way. Like the southern interviewer, she also took notes during each visit. In this way two records of the ideas from each participant were obtained. Before coding the material, the person coding listened to each tape while following the notes and where necessary added extra wording to ensure her understanding of the content. She then used the notes to transfer the ideas to the numerical codes.

Finally, the northern interviewer spent several days in Regina after the interviews were completed, checking the coding to be sure the codes chosen were consistent with her impressions given by the people she had visited.

This "debriefing" was also required to double-check many details, including accuracy of identifiers and designation of Northerners to attitude categories. These meetings were also helpful in discussing ways of obtaining additional northern interviews. This was necessary in view of the difficulties encountered by the northern interviewer in locating some people, especially in the northern-most and eastern-most native communities. Unfortunately, since most completed interviews were from the mid and west areas of the North, which tend to be Cree-speaking, comparisons with the Chipewyan communities had to be ruled out of the study.

4.4 Analysis of the Coding

The attitude codes, like the major theme codes, were the same for the follow-up as the transcript study. The process of creating attitude categories was also the same for both. This was described in detail in the report to the SSHRC, referenced above and on file at the Prairie Justice Research office. In brief, it involved classifying participants into various attitude categories on the basis of the emphasis and distribution of their many attitude codes.

The attitude categories used were as follows:

1) ***None:*** if no attitudes coded

2) ***Questions:*** if all attitudes are coded with a question

3) ***Moratorium:*** if any moratorium attitude was coded

4) ***Unconditional Pro:*** if any unconditional pro but no unconditional con attitude was coded

5) ***Unconditional Con:*** if any unconditional con but no unconditional pro attitude was coded

6) ***Neutral:*** if any neutral attitude was coded; or if no neutral but both conditional pro and con attitudes were coded

7) ***Conditional Pro:*** if apart from questions only conditional pro attitudes were coded

8) ***Conditional Con:*** if apart from questions only conditional con attitudes were coded

These attitude groups were created as follows: 1) separating out those with no attitudes and those with questions into two groups; 2) separating those with moratorium codes; 3) separating those with unconditional codes (into two groups); 4) separating those with only neutral or neutral and conditional only on one side (into two groups).

Attitudes designations were then cross-checked with the last attitude code (an overall attitude code determined by the coder) and a few alterations made as described in Section 8.2 of the earlier report.[1] Since the system was developed from the transcripts, which did not provide either the breadth or depth of attitudes that could come from interviews, the attitude categories dealing with support for a moratorium were expanded for the follow-up study into moratorium/opposed and moratorium/pro.

The coding from the follow-up study was also used to create groupings of participants in terms of their associations with organizations, departments and companies relevant to the uranium controversy. This is discussed in more detail in the results.

---

[1] Jim Harding, Report to SSHRC, Strategic Grants, Human Context of Science and Technology, University of Regina, Prairie Justice Research, January 20, 1989, p. 43-51.

5. RESULTS

5.1 The Scope of the Results

The database from the follow-up study totalled 6,895 records (i.e., lines) by 61 characters. When combined with the coding from the original transcript study, the database totals over 24,000 records.

Computer analyses of the data from the follow-up and the orginal transcript study has the potential for several sub-studies. For example, several longitudinal-type sub-studies could be mounted using the detailed information existing in the coding of the 106 people in the follow-up study.

Due to the present limits of time and budget the computer analyses for this study had to be limited to the specific objectives it was funded to answer. These objectives were outlined in detail in section 1.2 and can be summarized as follows:

1) to see how the participants viewed the inquiry process **after several years**;

2) to find out directly from participants, and in some depth, the attitudes they held towards the uranium project **at the time of the inquiry;**

3) to see **if any change has occurred** in their view of the inquiry or attidues towards the uranium project in the intervening years; and

4) to **broaden the identifiers** of participants to allow more cross-tabulations and, ideally, some modelling of the viewpoints of participants.

5.1.1 Completed Cross Tabulations

To help meet these objective, 19 specific cross-tabulations were completed using SAS computer programs. These cross-tabulations were done for the 106 follow-up participants in three batches: 1) coding from transcripts of inquiries in which they participated, 2) coding from follow-up study of "remembered views" from the inquiry, and 3) coding from follow-up study of present (1986) views. In each batch, various groupings of participants and coding were made. These groupings were: 1) **participants groups** (nine groupings by residence, ethnic background and gender), 2) **association groups** (seven groupings by affiliation and occupation and sometimes attidude, as described below), 3) **major themes** (fourteen major themes dealing with broad views typical of proponents and opponents of uranium-related projects), 4) **attitudes** (eight categories originally developed for inquiry content analysis, and two additional ones which improved upon these by combining support for a moratorium with support or opposition to the uranium project).

The specific cross-tabulations and print-outs are listed in Table 28. Note that a cross-tabulation of participant and association groups was done for the remembered views (at the time of the inquiry) so that the achievement of objective #4 - broadening the identifiers - could be better achieved.

TABLE 28

Print-Outs Completed on Follow-Up Study

	Computer Pages*
CODING OF TRANSCRIPTS	
1. Participant groups by major themes	1-4
2. Association groups by major themes	5-6
3. Participant groups by attitudes	7-8
4. Association groups by attitudes	9
5. Participant groups by expanded attitudes	10-11
6. Association groups by expanded attitudes	12
CODING OF REMEMBERED VIEWS	
7. Participant groups by major themes	13-16
8. Association groups by major themes	17-18
9. Participant groups by attitudes	19-20
10. Association groups by attitudes	21
11. Participant groups by expanded attitudes	22-23
12. Association groups by expanded attitudes	24
13. Participant groups by association groups	25-26
CODING OF PRESENT VIEWS	
14. Participant groups by major themes	27-30
15. Association groups by major themes	31-32
16. Participant groups by attitudes	33-34
17. Association groups by attitudes	35
18. Participant groups by expanded attitudes	36-37
19. Association groups by expanded attitudes	38

* These are the pages for the actual print-out, which is relevant for further research, not for this report.

Table 29 gives the number and percentages of the 106 participants in the participant and association groups. It should be clear that the cross-tabulations involve only the 106 people in the follow-up study. To make the comparison between the coding from transcripts and from the follow-up study, the follow-up data was merged with the data for these same 106 people from the larger database involving all 315 original sampled participants.

TABLE 29

Number and Percentage of Participant and Association Groups in Follow-Up Study

Participant Groups	# (%)	Combined Groupings	# (%)[b]	Association Groups	# (%)
Native Men	12 (11.3)	Native	16 (15.1)	Proponent Groups[c]	31 (29.3)
Native Women	4 (3.8)	Northern	29 (27.4)	Government	15 (14.2)
Non-Native Northern Men	7 (6.6)	Rural	18 (17.0)	Native	10 (9.4)
Non-Native Northern Women	6 (5.7)	Urban	46 (43.4)	Trade Unions	4 (3.8)
Non-Native Out-of-Province Men	13 (12.3)	Female	30 (28.4)	Opponent Groups[d]	33 (31.1)
Non-Native Rural Men	12 (11.3)	Out-of-Province	13 (12.3)	Not Grouped	13 (12.3)
Non-Native Rural Women	6 (5.7)				
Non-Native Urban Men	32 (30.2)				
Non-Native Urban Women	14 (13.2)				
TOTAL	106 (100.1)[a]			TOTAL	106 (100.1)

a. Percentages were rounded to the closest tenth.
b. Will not total 106 people nor 100% due to double counting in some categories (e.g., female).
c. Includes uranium industry, pro-uranium businesses and academics from physical sciences.
d. Includes environment, anti-nuclear, women's, church and development groups (including anti-nuclear academics from social/biological sciences).

Furthermore, it should be clear that the number of major theme codes, upon which we are concentrating at this stage of analysis, varies between the three batches of cross-tabulations, as follows:

Database	Major Codes	Per Participant (N=106)
Transcripts	376	3.5
Follow-Up		
- Remembered	822	7.8
- Present	885	8.3

5.1.2 Assumptions About Results

Before proceeding to analyze the general results that bear on the main objectives of this study it is worth briefly restating our methodoligical assumptions. This involves saying something about the participants, the definitions and the measures involved.

The strongest comparisons are obviously those made among these participants (as aggregated in participant or association groups). Comparisons based on the same method (i.e. the interview and/or questionnaire) are probably the most valid. This means that comparisons of "remembered" and "present" (1986) views for the same participants (as aggregated) should be viewed with the greatest confidence.

When we find consistency between "remembered" views for a grouping (e.g. native women) in the follow-up study, and the larger similar grouping in the original study, we may also want to argue that the follow-up study better represents the original sampled participants. Without more specific knowledge of the strengths and weaknesses of the methodology, original sampling, etc. being understood, these statements will be limited to being about comparative trends.

Since the follow-up participants were designated to attitude categories using the same method as used in the original study, these results are directly comparable. Comparisons of major themes are, however, more complex. Major themes were coded whenever they were indicated. Transcripts and, in particular, samples of transcripts did not encourage the same scope or amount of major themes as did the wide- ranging interviewing schedule used in the follow-up study. In fact, unlike the inquiry process, the follow-up study was designed to try to reflect the relevance and nature of these major themes to participants. Direct comparisons between the transcript and follow-up major themes are therefore open to question, though the distributions will be compared for interest and as another way to assess the reliability and validity of the transcript coding.

Participants were all given the same opportunity to respond to the follow-up questions. Therefore a different distribution of major themes (or other) codes is taken as reflecting a different emphasis for the participant and the participant group in which they are placed. A different relative distribution, where one major theme code is more predominant for one group than another, is also taken as reflecting a different internal makeup of viewpoints. Because of the "memory factor" the greatest confidence is with the distribution of major themes and the makeup of the present viewpoint. These assumptions will obviously be open to reconsideration on the basis of the general or future results.

5.1.3 The Creation and Analysis of Association Groups

During the orginal coding of the transcripts of sampled participants, affiliation and/or occupations were coded if any such information was included or available. Two hundred and four (204) discreet codes were used to ensure specific accuracy of coding. This information could be regrouped into categories which would serve the purposes of a variety of analyses.

As it turned out there was not information on occupation and/or affiliation in the transcripts for enough sampled participants to justify comparisons on this basis among the various inquiries. To try to compensate for this limitation the follow-up study was designed to obtain this information. This would at least allow the occupational and affiliation analysis of the transcripts to be done for those in the follow-up study.

5.1.3.1 General Occupational and Affiliation Profile of Follow-Up Participants

The distribution of the major categories of occupation and affiliation codes was initially analyzed. For this purpose the "remembered views" were used since it was the occupation and/or affiliation at the time of the inquiry in which we were primarily interested.

This preliminary analysis showed the rank order of occupations at the time of the inquiries as shown in Table 30. It also showed the rank order of known affiliation at the time of the inquiries as shown in Table 31.

TABLE 30

Rank Order of General Occupational Breakdown of Follow-Up Participants (Remembered Views from Coding Sheets)

Occupational Group	Frequency	Percent
Uranium/Nuclear Occupations	17	16.0
Civil Servants/Political Occupations	16	15.1
Education	14	13.2
Professionals in Social/Humanities/Biology	10	9.4
Miscellaneous	9	8.5
Farmers	9	8.5
Community Development Occupations	8	7.5
Retired/Unemployed	5	4.7
Professionals in Physical Sciences	4	3.8
Business and Financial Occupations	4	3.8
Homemakers	4	3.8
Trade Union Occupations	4	3.8
Hunters/Trappers/Fishermen	2	1.9
TOTAL		100.1

TABLE 31

Rank Order of General Distribution of Affiliations for Follow-Up Participants at Time of Inquiries (Remembered Views)

Affiliation Group Type	Frequency	Percent
Opposition Group	33	31.1
Pro: Business, Physical Science	30	28.3
Government (Political and Civil Servant)	15	14.2
Unaffiliated	13	12.3
Aboriginal	10	9.4
Trade Unions	4	3.8
Other	1	0.9
TOTAL	106	100.0

On the basis of these results decisions had to be made about the way to define people's association to the main groupings active in the controversy in the uranium inquiries. It was decided to sub- group affiliation codes according to what was expected to relate to three main attitude categories: 1) pro-uranium, 2) anti-uranium, 3) moratorium. The main rationale for this was that we wanted to be sure that the analysis of association meant something in terms of linking interests and viewpoints. Support for trying to group the affiliation codes on this three-fold basis existed in the general attitude breakdown among the 106 follow-up participants. Thirty-nine (39) of these participants were pro-uranium, 31 were anti-uranium and 36 were either in support of a moratorium (27) or neutral (9).

The fact that 27 of the 106 had no affiliation codes, however, meant a different method of determining association had to be established. These 27 follow-up participants were defined by their occupation and attitude. If their occupation was considered complementary to the particular association group and this was not contradicted by their attitude, they were included with this group.

We did not want to unnecessarily lose qualitative information in this reduction of codes to these association groups. Though the objective was to assess peoples' reflective and present attitudes, themes, etc. regarding the uranium projects and inquiries in terms of these main groupings of affiliations/occupations, we decided to keep the links explicit.

We therefore initially reduced the affiliation codes to 27 categories which could then be deliberately grouped and regrouped on the basis of the findings to see what associations did in fact relate with attitude. The 27 groups (and the discreet codes used for these) are listed in Appendix 18.

These groups utilize such things as business, government, academic, native and non-governmental organizations. The positions of the highly specific groups often had to be double-checked before inclusion. For example, pro-nuclear non-business and non-government groups had to be classified under "other pro-nuclear groups" to separate them from the vast majority of non-government groups which were anti- uranium.

Care was taken to ensure that native follow-up participants were grouped by native affiliations, and not collapsed into broad categories like "municipal government." Therefore, in addition to there being categories for provincial native organizations, including native women and northern local government, there was a category created for "native - other."

Once these 27 sub-groups were created to ensure that such crucial distinctions were taken into account, these groups were then combined into the major association groups. The pro-uranium category included people with the uranium industry in Saskatchewan; northern, provincial and non-Saskatchewan businesses; and uranium industry consultants, including a number of physical scientists in university and consulting groups. The Saskatchewan Federation of Labour and various other officially pro-uranium trade unions were also considered to be in this group, though they were kept separate to see if any different basis existed for their pro-uranium position. Government was also kept separate to analyze just how this grouping did approach the uranium projects.

The opponent association category included women's, church, environmental, anti-nuclear and development groups, and a number of professionals in humanities, biology and social sciences.

The moratorium neutral-oriented category included those affiliated with native groups. The non-associated groups were people with no known or obvious affilitation.

5.1.3.2 Association Grouping of Follow-Up Participants

The first thing that needed to be determined was how the 106 people in the follow-up study were distributed across these association groups in terms of ethnic background, gender and residence at the time of the inquiry. These details are shown in Table 32. (We cannot compare this distribution to the original, larger sample of participants since we could not obtain complete information from the transcripts for those we were unable to locate in the follow- up study.)

Because of the smaller numbers when gender comparisons are made we will concentrate on highlights and comparisons of native and non-native northerners and rural and urban non-native.

The largest percentage of native people (9 of 16) were, as expected, associated with native groups at the time of the inquiry. The rest either were associated with a proponent group (3, all Native men) or could not be grouped (3, 2 of them women) or were associated with an opponent group (1).

The largest percentage of non-native northerners (5 of 13) were associated with a proponent group. Smaller numbers were associated with an opponent group (3, 2 of them women), could not be grouped (3, all men), were associated with government (1 woman), or a native group (1 man).

The largest percentage of rural people (11 of 18) were associated with groups opposed to uranium mining/refining. Smaller numbers could not be grouped (3, 2 of them women). Two, both men, were associated with a proponent group or were associated with governmeat.

TABLE 32

Frequency and Percentage of Participant Groups by Association Groups (Remembered Views)

	Govern-ment # (%)	Aborig. Assoc. # (%)	Pro: Bus./Sci. # (%)	Opposed Group # (%)	Trade Unions # (%)	Other # (%)	Not Grouped # (%)	TOTAL # (%)
Aborig. Men	0 (0.0)	8 (7.55)	3 (2.83)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.94)	12 (11.32)
Aborig. Women	0 (0.0)	1 (0.94)	0 (0.0)	1 (0.94)	0 (0.0)	0 (0.0)	2 (1.89)	4 (3.77)
Northern Men	0 (0.0)	1 (0.94)	2 (1.89)	1 (0.94)	0 (0.0)	0 (0.0)	3 (2.83)	7 (6.60)
Northern Women	1 (0.94)	0 (0.0)	3 (2.83)	2 (1.89)	0 (0.0)	0 (0.0)	0 (0.0)	6 (5.66)
Other Men	3 (2.83)	0 (0.0)	7 (6.60)	1 (0.94)	2 (1.89)	0 (0.0)	0 (0.0)	13 (12.26)
Rural Men	2 (1.89)	0 (0.0)	2 (1.89)	7 (6.60)	0 (0.0)	0 (0.0)	1 (0.94)	12 (11.32)
Rural Women	0 (0.0)	0 (0.0)	0 (0.0)	4 (3.77)	0 (0.0)	0 (0.0)	2 (1.89)	6 (5.66)
Urban Men	8 (7.55)	0 (0.0)	12 (11.32)	9 (8.49)	1 (0.94)	1 (0.94)	1 (0.94)	32 (30.19)
Urban Women	1 (0.94)	0 (0.0)	1 (0.94)	8 (7.55)	1 (0.94)	0 (0.0)	3 (2.83)	14 (13.21)
TOTAL	15 (14.15)	10 (9.43)	30 (28.30)	33 (31.13)	4 (3.77)	1 (0.94)	13 (12.26)	106 (100.0)

The largest percentage of urban people (17 of 46) were associated with groups opposed to uranium mining/refining. Others were associated with a proponent group (13 of 46, 12 of them men), or with government (9, 8 of them men). Some could not be grouped (4, 3 of them women); were associated with trade unions (2, 1 of each gender) or were associated with other groups (1 man).

This general distribution of the associations of the 106 participants in the follow-up study tended to follow the pattern found in the study of the larger original sample and transcripts. In both the transcript and follow-up study rural non-native women were the most opposed (4 of 6 in follow-up) whereas northern non-

native women were most supportive of uranium mining/refining.[1] Whether this is the case will be one focus of the following discussion of results.

5.2 Looking Back at the Inquiries

To find out what participants thought about the uranium inquiry process at the time and what they believed in 1986, the distribution for the two major themes which addressed the inquiry process was profiled for the number of codes found in the transcripts and for the number counted from the interviews.

The wording of these two major theme codes is shown under codes 600 and 650 in Appendix 18. Code 600 reflects the belief that the public inquiry process operates as part of a pluralist liberal democracy and that it will have a significant influence on government policy. The assumption in the creation of the code was that this view would be endorsed by those supporting uranium mining and refining. (This assumption can itself be checked out by analyzing the database.) Code 650 reflects the belief widespread among opponents that the public inquiry process wouldn't alter the government's pro-uranium policy. (Assessing the relative or comparative truth in these views was one of the objectives of the sub-study on government policy outlined in Appendix 1 of this report.)

After profiling the distribution of these major themes for present views, it can be contrasted with the distribution based on remembered views, and that based on the coding of transcripts. Much more detailed information, using the minor themes on the inquiry process, could be done as a future sub-study.

Table 33 shows the number of times the two major codes (pro and con) about the value of the inquiry process were used by members of various participant groups in the sampled pages of transcript; when the same people discussed their memory of the events; and finally, what they presently believe.

According to the code distribution, only a vew Aboriginal men, urban men and women and rural men expressed confidence in the inquiry process in the transcripts. However, in the remembered views 55 codes were noted showing confidence in the inquiry at the time and represent a wide range of participant groups, most expecially urban men and those from outside Saskatchewan. In the transcripts, 18 codes were noted expressing distrust of the inquiry, and these came from all participant groups except those outside Saskatchewan. In the remembered views there were fewer codes showing lack of trust in the inquiry, but the distribution amongst participation groups was similar to the transcripts.

The code distribution for the interviews about the 1986 impressions of the inquiry were dramatically different. Only 5 of the 57 codes showed confidence in the inquiry process, while 52 codes represented a severe lack of confidence. This apparent disillusionment with the public inquiry process as an opportunity to

---

[1] See Jim Harding, "A Content Analysis of Attitudes Twoards Uranium Mining Expressed in the Local Hearings of the Cluff Lake Board of Inquiry" in James S. Frideres and Joseph E. DiSanto (eds.) ***Impact Assessment Bulletin***, Vol. 4, No.1-2, 1986.

influence the government's decision was quite unexpected. It came from both supporters and detractors of the projects and deserves further study.

TABLE 33

Opinions About the Value of the Inquiry Process
(Frequency of Pro and Con Opinion Codes)

I. Codes representing opinions at the time of the inquiries as coded from the transcripts (with percentage of 24 codes noted).

Public Inquiry Ensures Opportunity to Influence Government Decision	#	%	Public Inquiry Will Have No Influence on Government Policy	#	%
Stated by:			Stated by:		
Aboriginal men	2	8.3	Rural Men	4	16.1
Urban men	2	8.3	Aboriginal women	3	12.5
Rural men	1	4.2	Aboriginal men	3	12.5
Urban women	1	4.2	Urban men	3	12.5
			Rural women	2	8.3
			Urban women	2	8.3
			Other men*	1	4.2
TOTAL	6	25.0	TOTAL	18	74.4

II. Codes representing remembered opinions at time of inquiries as coded during interviews (with percentage of 85 codes noted).

Public Inquiry Ensures Opportunity to Influence Government Decision	#	%	Public Inquiry Will Have No Influence on Government Policy	#	%
Stated by:			Stated by:		
Urban men	20	23.5	Urban Men	13	15.3
Other men*	14	16.5	Aboriginal men	8	9.4
Aboriginal men	8	9.4	Urban women	3	3.5
Northern non-Aboriginal women	5	5.9	Northern non-Aboriginal men	2	2.4
Urban women	5	5.9	Rural men	2	2.4
Rural women	2	2.4	Northern non-Aboriginal women	1	1.2
Aboriginal women	1	1.2	Rural women	1	1.2
TOTAL	55	64.8	TOTAL	30	35.4

III. Codes represeting 1986 opinions as coded during interviews (with percentage of 57 codes noted).

Public Inquiry Ensures Opportunity to Influence Government Decision	#	%	Public Inquiry Will Have No Influence on Government Policy	#	%
Stated by:			**Stated by:**		
Aboriginal men	2	3.5	Urban Men	13	22.8
Urban men	2	3.5	Aboriginal men	11	19.3
Northern non-Aboriginal women	1	1.8	Rural men	10	17.5
			Urban women	8	14.0
			Northern non-Aboriginal men	6	10.5
			Other men*	2	3.5
			Rural women	2	3.5
TOTAL	5	8.8	TOTAL	52	91.2

* Other men = men from outside Saskatchewan who participated in the inquiries.

5.3 Checking Attitudes Towards Uranium Projects

The major themes on the inquiry process will ultimately have to be cross-tabulated with attitude categories and association groups to help interpret these findings and anomalies. For now, we wish to profile the attitudes of the various participant groups as they remembered them during the follow-up study. We will first do this using the attitude categories used in the original content analysis, and then reanalyze the results using the expanded attitude categories. This will allow a comparison, on both bases, with the attitude results derived from the original study.

5.3.1 The Proponent Group

The rank order of participant groups remembering being unconditionally in support of the uranium projects, is shown in Table 34.

This analysis indicates that none of the 4 Aboriginal women, only 1 of the 12 Aboriginal men, and none of the rural non-Aboriginal women were unconditionally in support of the uranium projects. Furthermore, no Aboriginal women or men, nor rural non-Aboriginal women, were conditionally in support of these projects either. According to these results **the people most in support of the uranium industry at the time of the in quiries were: first, out-of-province men; second, urban men; and third, northern non-Aboriginal women.**

TABLE 34

Number and Percentage of Participants Within Participant Groups Holding Particular Attitudes Towards Uranium Projects (Percentages in each case are of the total participant group) (Remembered Views of the Interviewed Participants)

	# of Participants	% of the Participant Group
Unconditional Support		
Other men*	9	69.2
Urban men	18	56.2
Northern non-Aboriginal women	3	50.0
Rural men	4	33.3
Urban women	2	14.3
Northern non-Aboriginal men	1	14.3
Aboriginal men	1	8.3
TOTAL	38	
Conditional Support		
Other men*	1	7.7
Unconditional Opposition		
Rural women	6	100.0
Urban women	9	64.3
Northern non-Aboriginal men	3	42.9
Rural men	4	33.3
Aboriginal women	1	25.0
Urban men	7	21.9
Northern non-Aboriginal women	1	16.7
TOTAL	31	
Support Moratorium		
Aboriginal men	10	83.3
Aboriginal women	3	75.0
Northern non-Aboriginal men	2	28.6
Rural men	3	25.0
Northern non-Aboriginal women	1	16.7
Urban men	5	15.6
Urban women	2	14.3
Other men*	1	7.7
TOTAL	27	
Neutral Attitude		
Nothern non-Aboriginal women	1	16.7
Other men*	2	15.4
Northern non-Aboriginal men	1	14.3
Aboriginal men	1	8.3
Rural men	1	8.3
Urban women	1	7.1
Urban men	2	6.2
TOTAL	9	

*Other men = men from outside Saskatchewan who participated in the inquiries and subsequently replied to our questionnaire.

It is important to note that other than 1 out-of-province man, no participants were coded as only conditionally in support. Whether this means attitudes were more polarized than we could infer from the coding of transcripts and/or they have hardened in the intervening years and this is reflected in remembered attitudes needs to be considered. Did the somewhat formal inquiry process lead people to be more qualified and less direct in their expression of attitudes? Alternatively, were the people most ready to participate in the interviews those who either unconditionally supported or opposed the projects?

If the coding for conditional support is added into the category for "other men" it raises it to 77% from 69.2%. **Urban and out-of-province men account for 28 of 39 (or 72%) of those in the follow-up study who supported the uranium industry.** This certainly reinforces the view that **support was greatest amongst people who were separated from the direct consequences of the project.** It suggests the need to consider whether and how patriarchal and scientistic ideologies may reinforce this support. Such a sub-study could be operationalized and tested using the codes in the database.

The numbers of participants in other categories are so small that it is questionable whether much weight should be attached to them. The fact that northern non-Aboriginal women were next highest in the percentage supporting uranium projects does, however, tend to support the pattern found in the overall content analysis of attitudes for the transcript sample of participants. In that study northern non-Aboriginal women were the major exception to the trend of women being more against uranium mining than men. The dependence of these non-Aboriginal women on the economy of the mining projects should be considered as a factor in their attitudes.

Another way of showing the apparent role of gender in these attitudes is to compare the percentage of women to men coded from the transcripts as being unconditionally in support of the uranium projects, in comparison to their percentages within the follow-up study. Only 5 of 38 (or 13.2%) of proponents were women, whereas women constituted 28.4% of the follow-up study. In contrast, men were 86.8% of the proponents but 71.6% of the follow-up study.

5.3.2 The Opponent Group

The rank order of participant groups remembering being unconditionally in opposition to the uranium projects, is also shown in Table 34.

It is noteworthy that, as in the original transcript analysis, rural women express the greatest, and urban women the next greatest opposition. With the exception of urban men, the numbers for other groups get quite small, but the trend is again consistent with findings in the transcript study. The only exception is northern non-Aboriginal men who showed a fairly high degree of opposition during the follow-up study. This result will have to be compared to their transcript codes to see if there is any sign of change for this grouping or if the follow-up participants are an unrepresentative grouping. Until the associations are analyzed for the urban men opposing the uranium industry, and this sub-group is contrasted with the larger number of urban

men supporting the industry, no interpretation is justified.

5.3.3 The Moratorium Group

The rank order of the percentage of participant groups remembering supporting a moratorium is also shown in Table 34.

This rank order concurs with the transcript study. **Aboriginal people were most in support of a moratorium.** No rural women supported a moratorium because they were outrightly opposed to the uranium project. Fewer urban women supported a moratorium because many were in outright opposition. Comparisons with codes for the present views of northern non-Aboriginal men are required before it is known whether any change is reflected in their relatively high support for a moratorium.

5.3.4 The Neutral Group

The rank order of the percentage of participant groups remembering being neutral during the inquiries is shown in Table 34. Since there are such small numbers it may be most pertinent that 7 of 9 of those remembering being neutral were men. This is, however, only slightly higher than the percentage of men in the complete follow-up study (78% to 72%). In contrast, 17 women and 14 men remembered being opposed to the uranium industry whereas 5 women and 33 men remembered being in support of the uranium industry.

5.3.5 Comparison With New Attitude Groups

During the interviews it became clear that some people who supported a moratorium were also unconditionally opposed to (or in favor of) the uranium industry. As we said earlier, coding these possible combinations had been problematic during the transcript study. Therefore, following the interviewing, two new attitude groups were created. The attitude groups were labelled "Proponent Moratorium" for those who supported the project but wished it to be placed on "hold" for a future date and "Opponent Moratorium" for those who really rejected the project but expressed their opposition by asking for a moratorium. All three relevant batches of the database (transcript, remembered, present) were analyzed to see what difference the refinement of these attitudes made in the distribution of attitudes across participant groups. We will only look at the rank orders of percentages for the two new attitude groups at this point. See Table 35.

TABLE 35

Number and Percentage of Participants and Participant Groups in New Attitude Categories (Remembered Views of the Interviewed Participants)

Proponent Moratorium	#	%	Opponent Moratorium	#	%
Northern non-Aboriginal men	2	28.6	Aboriginal men	3	25.0
Aboriginal men	3	25.0	Aboriginal women	1	25.0
Northern non-Aboriginal women	1	16.7	Rural men	2	16.7
Urban men	2	6.2	Urban women	2	14.3
			Other men	1	7.7
			Urban men	1	3.1
TOTAL	8		TOTAL	10	

The cross-tabulation for participant groups and the original attitude categories shows that 27 of 106 were listed in the general moratorium category. With the two new attitude categories this has dropped to 9. The 18 fewer have been redistributed into opponent (10) and proponent (8) categories.

If those in support (including those now in the proponent moratorium category) are totalled they come to 47 of 106 or 44.4% of follow-up participants. If those opposed (including those in the opposed moratorium category and those remaining in the moratorium category) are totalled they come to 50 of 106 or 47.2% of follow-up participants. **This re-analysis of how participants remembered their attitudes presents a much more polarized view of the controversy than when only one moratorium category was used.** This conclusion, however, obscures the fact that even those in the new proponent moratorium category didn't want the uranium project to proceed at the time of the inquiry. If all those outrightly opposed to, or wanting a moratorium on, the uranium industry are combined it amounts to 54.7% of the follow-up study. This would reduce those outrightly favouring a go-ahead to the uranium industry to 36.8%.

The fact that 7 of 8 in the new proponent/moratorium category and 7 of 10 in the new opponent moratorium category were men again suggests that **women were more categorical than men in their attitudes.**

It is noteworthy that 6 of 8, or **75% of those going to the proponent moratorium category, were from the north** and that every northern group other than Aboriginal women was involved. **Aboriginal, rural, urban and out-of-province participants went to the opponent moratorium category.**

5.3.6 Comparing Remembered and Transcript Coding

Before turning to our third main objective concerning changes in attitudes, it is worthwhile seeing how this more direct profile of attitudes compares to that derived indirectly from the coding of the transcripts

of the same 106 participants. This comparison is necessary before any discussion of change in attitudes is warranted. To do this we will utilize only the new expanded attitude categories.

This comparison can in part be seen as an evaluation of the limits of the original study which was based on coding of the transcripts. It could be argued that the lack or change of memory during the follow-up study, as well as the limitations of the transcript coding, could contribute to any discrepancies. For immediate comparison, however, we will consider (and respect) the remembered attitudes of participants as our most accurate benchmark.

What is immediately evident in Table 36 is that **these 106 participants are spread more widely across attitude categories in the coding from transcripts than in the coding of remembered attitudes.** Nine of 10 categories are used in the transcript coding compared to 7 of 10 in the coding of remembered attitudes. This is due to only one person being coded in each category "no attitudes", and "questions only." This may suggest that the limited pages of transcripts, and a limited opportunity to participate and express one's views during the inquiry, led to the coding of participants in these categories. It could also be a result of the intimidating atmosphere of the court-room in comparison to a private, open- ended interview. This is a relatively minor issue, however, involving only 2 of 106 participants.

TABLE 36

Comparison of Coding of Attitudes from Transcripts and from Remembered Attitudes in the Follow-Up Study

	Pro	Cond/ Pro	Pro/ Mor	None/ Quest.	Neu- tral	Mor	Opp/ Mor	Cond/ Opp	Opp
Transcript	19	19	0	2	8	14	7	12	25
Remembered	38	1	8	0	9	9	10	0	31

By far the most marked difference between the coding of attitudes from transcripts and from direct interviews (or questionnaires) was **the much higher number of people in the conditional attitude categories in the transcript coding.** Whereas 38 people are categorized into the unconditional proponent category in the coding of remembered attitudes, only 19 were placed here in the coding of transcripts. If those placed within the conditional proponent category are included, the totals are very close (39 to 38). However, if those included in the proponent/moratorium category are included, the totals diverge (47 to 38).

There is a similar, though less discrepant, pattern on the other end of the attitudes. Whereas 12 were included in the conditionally opposed category during the transcript coding, none showed in this attitude category during the follow-up study of remembered attitudes. If these two categories are added up there is a

larger difference than for the proponent end of the continuum (31 to 37 people). If the opponent/moratorium category is included the difference is, however, decreased (44 to 41).

It is difficult to interpret these differences, especially without determining the actual participants involved, their characteristics, and their overall profile of codes. This type of investigation could be part of a more methodologically-oriented sub-study. At this point we will limit our observations. It is noteworthy that in the case of both proponents and opponents, the participants remember their attitudes as unconditional, whereas within the limited pages of the transcript it was often possible only to recognize conditional support for or opposition to the project. This could be because in the direct contact involved in the follow-up study it was possible to find out the actual attitudes. It may also be because after almost 10 years in some cases participants' attitudes have become less conditional and this is reflected even in remembering attitudes from the time of the uranium inquiries. We are not going to be able to explore the reasons at this stage in this study.

In the case of proponents the number of proponents asking for a moratorium was not caught in the coding of transcripts. Coders may have underestimated the project support of this group because a moratorium was assumed to be related to neutrality, or perhaps even opposition. It is also possible that those remembering supporting a moratorium didn't express their support of the project forthrightly at the time of the inquiry.

The distribution of people in the original and expanded moratorium categories, for both the coding of transcripts and coding of remembered attitudes, is shown in Table 37.

TABLE 37

Participants in Original and Expanded Moratorium Codes (Transcript and Remembered)

	ORIGINAL	EXPANDED			
	Moratorium	Proponent Moratorium	Opponent Moratorium	Moratorium	TOTAL
Transcript	21	0	7	14	21
Remembered	27	8	10	9	27

This table indicates that 6 fewer participants were coded under moratorium categories in the transcripts. It appears possible that not only were there 6 proponents supporting a moratorium but that 2 of the general moratorium category were proponents. (Three of the general moratorium category were also reanalyzed as opponents). While the issue of the transcript coding should be explored further, it is worth speculating about a logical interpretation by way of some questions. Is it not more likely for an opponent

than a proponent to explicitly mention that they support a moratorium? Is it not easier for a proponent to indicate support for a moratorium after the fact, rather than add to the opposition forces by mentioning it during a heated inquiry? And, of course, is it not possible that some proponents have come to develop a position more inclined to a moratorium since the time of the inquiries? We will try to explore these questions as we embark on the analysis of changes in attitudes and major themes.

5.3.7 Remembered Attitudes and Associations of Participants

Before investigating any differences evident between remembered and present attitudes and themes it is worth looking directly at the association groups which interrelate with the remembered attitudes. To do this we look at the expanded attitude categories.

The proponent, opponent and moratorium categories are highlighted in Table 38. Not surprisingly the vast majority (23 of 30) in the proponent group (which includes business and academics associated with the uranium industry) were in outright support of the uranium industry. Four others, although proponents, supported a moratorium; another a general moratorium; and two appeared neutral. Conversely, it is not surprising that the vast majority (23 of 33) of those associated with opposition groups were, in fact, outrightly opposed and that another 6 of 33, although opponents, supported a moratorium. Three of 33 associated with these groups appear neutral.

Nor is it surprising that all people in the follow-up study associated with Aboriginal groups are in either moratorium or the neutral categories. (Aboriginal participants are split three ways between proponent, opponent and general moratorium with one being neutral).

These results from the follow-up study do tend to confirm and reinforce the findings based on the transcript study. What is perhaps new from this analysis of association groups is the attitudes of government, trade union and unaffiliated participants (i.e., those not grouped). **Regarding those associated with government, a large majority (12 of 15) were proponents.** One other was a proponent supporting a moratorium. Only 2 of 15 were neutral by their own definition. **Regarding those associated with trade unions, all (4 of 4) were proponents.**

In contrast, 8 of 13 of those not grouped were opponents, one other was in the opponent/moratorium category, and three others were in the general moratorium category. (One of these appeared neutral).

What this suggests is that **corporations, businesses, associated academics, government officials and official trade unionists were allied - as proponents - at the time of the inquiries.** Whether their alliance was based on common support for these particular uranium projects; or whether they shared ideological beliefs about energy and economic growth creating profits, revenues and jobs remains to be studied through the themes and other codes.

TABLE 38

Association of Participants by Expanded Attitude Categories (Remembered Views)

Associate Group	Proponent Attitude	Opposed Attitude	Neu-tral	Moratorium			TOTAL
				Pro	General	Opp	
Proponent (Business, Physical Science (Persons)	23	0	2	4	1	0	30
Government (Persons)	12	0	2	1	0	0	15
Trade Union (Persons)	4	0	0	0	0	0	4
Aboriginal Groups (Persons)	0	0	1	3	3	3	10
Opposed Groups (Persons)	0	23	3	0	1	6	33
Other Group (Persons)	0	0	0	0	1	0	1
Unassociated (Persons)	0	8	1	0	3	1	13
TOTAL	39	31	9	8	9	10	106

In contrast, whether in support, opposed or neutral towards the uranium projects, Aboriginal people supported a moratorium, and non-government and unaffiliated people were inclined to be opposed to the uranium industry.

It is of interest to compare these results to the coding from the transcripts as shown in Table 39. This coding suggests that the designation of attitudes for these association groups from the transcripts was very similar to that based on coding from the follow-up study. If anything, the transcript coding tended to underestimate slightly the extent which government and official trade unionists at the time supported the uranium projects.

It also underestimated the extent of support for a moratorium among the Aboriginal people shown in the follow-up study. This discrepancy in the support for a moratorium, unlike general attitudes to the uranium project, may be because there seemed little point in expressing or implying the support once it

was clear there wasn't going to be a moratorium as was true by the time of the Key Lake Board of Inquiry. Nevertheless, based on the comparison of these participants, and using the coding from remembered attitudes as the best measure, **Aboriginal people were overwhelmingly in support of a moratorium.**

TABLE 39

Participants by Association Groups in Expanded Attitude Categories (Transcript and Remembered)

	COMPARISON OF						
	Proponent Attitude Groups				Opponent Attitude Groups		Neutral Group
	Proponent	Govern-ment	Trade Union	Aboriginal	Non Aboriginal	Aboriginal	
Transcript	22	11	3	1	23	2	8
Remem-bered	23	12	4	0	23	0	9

	COMPARISON OF MORATORIUM GROUPS					
	Proponent Moratorium		Opponent Moratorium		Other Moratorium	
	Non-Aboriginal	Aboriginal	Non-Aboriginal	Aboriginal	Non-Aboriginal	Aboriginal
Transcript	0	0	7	0	8	6
Remem-bered	5	3	7	3	6	3

5.4 Changes in Attitudes Since the Inquiry

5.4.1 Participant Groups and Expanded Attitudes

This sets the stage for meeting the third, and perhaps the most pertinent objective of this follow-up study, which is to assess changes in attitudes since the inquiries. First we will compare remembered and 1986 attitudes for participant groups.

As shown in Table 40 **there is a distinct shift in attitudes of Aboriginal men to one of opposition to the uranium industry.** There were no Aboriginal male proponents at all in the follow-up coding. And whereas there were no Aboriginal male opponents in the coding of remembered views, there were 5 of 12 in opposition in the follow-up. This is mainly the result of 4 participants (33%) shifting from a moratorium

position to an opposed position. There was also **a shift from a moratorium to an opposition position for the Aboriginal women in the follow-up study.** In total 8 of 16 (50%) of the Aboriginal participants ended up opposed to the uranium industry. In contrast **non-Aboriginal Northerners, both men and women, have become slightly more supportive of the uranium industry.** The number of northern non-Aboriginal proponents has increased from 4 of 13 to 6 of 13, which is 46 percent.

TABLE 40

Comparison of Remembered and Follow-Up Attitudes for Participant Groups in the Follow-Up Study

	REMEMBERED						FOLLOW-UP					
	Pro	Opp	Moratorium			Neu	Pro	Opp	Moratorium			Neu
			Pro	Opp	Oth				Pro	Opp	Oth	
Aboriginal Men	1	0	3	3	4	1	0	5	2	1	3	1
Aboriginal Women	0	1	0	1	2	0	0	3	0	0	1	0
Total Aboriginal	1	1	3	4	6	1	0	8	2	1	4	1
Other Northern Men	1	3	2	0	0	1	2	3	1	1	0	0
Other Northern Women	3	1	1	0	0	1	4	1	0	0	0	1
Total Northern Non-Aboriginals	4	4	3	0	0	2	6	4	1	1	0	1
Non-Sask. Men	10	0	0	1	0	2	9	1	0	0	0	3
Rural Men	4	4	0	2	1	1	4	7	0	1	0	0
Rural Women	0	6	0	0	0	0	0	6	0	0	0	0
Total Rural	4	10	0	2	1	1	4	13	0	1	0	0
Urban Men	18	7	2	1	2	2	20	10	0	1	0	1
Urban Women	2	9	0	2	0	1	2	7	0	3	1	1
Total Urban	20	16	2	3	2	3	22	17	0	4	1	2
GRAND TOTAL	39	31	8	10	9	9	41	43	3	7	5	7

There is also a very slight shift in the direction of opposition among non-Saskatchewan men in the follow-up study. There were no non-Saskatchewan women in the study. This itself reflects the dominant position of men in corporate and government circles having to do with the uranium industry.

There is also a larger shift in the direction of opposition among rural men, so that 7 of 12 or 58% of

them are now in opposition to the uranium industry. Such a change is impossible for rural women since all 6 rural women were opposed at the time of the inquiry. This opposition persisted. **Total opposition among rural participants in the follow-up was 13 of 18 or 72%.**

Urban men seem to have changed by moving towards both the proponent and opponent views. The change is substantially greater (as a percentage) in the direction of opposition (43%) than support (11%). These shifts have occurred mostly through a loss of support for a moratorium.

There is a slight change among urban women from opposition to support for a moratorium. This was a definite anomaly in the results which will be discussed below.

In total, **urban participants in the follow-up study shifted slightly in both directions at the expense of support for a moratorium.**

The size of the urban group and the high degree of support for the uranium industry among urban men and women suggests that these are not representative samples of the original study. For example, in the study of the CLBI Locals, 25% of the sampled participants were urban, whereas 46% of the follow-up study participants were urban. In the CLBI Locals only 15% of the urban sampled participants were coded as proponents, whereas in the follow-up study 43% of the urban participants were coded as proponents . This is largely a result of urban men, 56% of whom were proponents. **Generalizations for this group, in particular, must therefore be limited to being of a longitudinal type.** It may be that the location of the main interviewer in Regina, the tendency for proponents to be based in urban work, and the difficulty tracking down past members of urban anti-nuclear groups, who may not be as likely as proponents to have secure employment, made the follow-up study more accessible to proponents than to opponents.

5.4.2 Attitude Change for Total Follow-Up

While it is necessary to scrutinize these apparent changes in terms of the association groups, it is of interest to see what overall trends are apparent. This is particularly revealing to the extent that the 106 people in this study represent the original sample of 315 studied through the inquiries.

Largely due to the high rate of proponents, especially in the urban group, **the follow-up participants are more pro-uranium than the original sampled participants. Even so, the major overall shift in attitudes among the total follow- up participants is clearly towards opposing the uranium industry.** The percentage increase in this direction is 38.7% compared to a 5.1% increase in those supporting the uranium industry. **This change is based on coding solely from the follow-up study, so it reflects the participants' own views of their changes.** This increase in the direction of opposition is reflected in almost all participant groups, but it is **primarily so among Aboriginal participants, followed to a lesser extent by rural and urban men.**

5.4.3 Attitude Change Among Association Groups

5.4.3 Attitude Change Among Association Groups

It is important to analyze whether there was any difference in this change in the direction of opposition among any particular association groups. To answer this see Table 41.

TABLE 41

Comparison of Remembered and Follow-Up Attitudes for Association Groups

	REMEMBERED ATTITUDES						FOLLOW-UP ATTITUDES					
	Pro	Opp	Moratorium			Neu	Pro	Opp	Moratorium			Neu
			Pro	Opp	Oth				Pro	Opp	Oth	
Aboriginal	0	0	3	3	3	1	0	5	3	0	2	0
Proponents	23	0	4	0	1	2	25	1	0	0	1	3
Government	12	0	1	0	0	2	12	1	0	0	1	3
Trade Unions	4	0	0	0	0	0	4	0	0	0	0	0
Opponents	0	23	0	6	1	3	0	26	0	4	1	2
Other[a]	0	8	0	1	4	1	0	10	0	3	1	0
TOTAL	39	31	8	10	9	9	41	43	3	7	5	7

a. All but one were not grouped.

This information indicates that **the greatest change of attitudes in the direction of opposition (from 0% to 50%) was among participants associated with Aboriginal organizations at the time of the inquiry.** Changes in this direction also occurred among participants associated with opponent groups, those whose associations could not be grouped, and though minor, among a few of those associated with proponents and government at the time of the inquiry.

5.4.4 Changes In Participants' Views of the Inquiry

It is pertinent to see if this change in the direction of opposition is part of an overall change, for example a change in how the inquiry process is now seen by these past participants. See Table 42.

From the coding of remembered views, there was a greater percentage of pro-inquiry than anti-inquiry major themes among all groups except Aboriginal men and non-Aboriginal northern men. This suggests that these participants had confidence at the time of the inquiry that public participation would have an impact on government policy. This may have applied to proponents, opponents and, perhaps to a lesser extent, to those supporting a moratorium.

TABLE 42

Number and Percentage* of Remembered and Follow-Up Major Themes About Inquiry for Each Participant Group

	REMEMBERED VIEWS ABOUT INQUIRY			FOLLOW-UP VIEWS ABOUT INQUIRY		
	Proponent Codes About Inquiry (%)	Opponent Codes About Inquiry (%)	Total Codes on all Questions	Proponent Codes About Inquiry (%)	Opponent Codes About Inquiry (%)	Total Codes on All Questions
Aboriginal Men	8 (10.0)	8 (10.0)	80	2 (2.1)	11 (11.6)	95
Aboriginal Women	1 (6.2)	0 (0.0)	16	0 (0.0)	0 (0.0)	34
Other Northern Men	0 (0.0)	2 (4.3)	47	0 (0.0)	6 (7.9)	76
Other Northern Women	5 (10.2)	1 (2.0)	49	1 (3.2)	0 (0.0)	31
Non-Sask. Men	14 (19.4)	0 (0.0)	72	0 (0.0)	2 (4.2)	48
Rural Men	3 (3.0)	2 (2.0)	98	0 (0.0)	10 (8.1)	124
Rural Women	2 (4.3)	1 (2.1)	47	0 (0.0)	2 (3.4)	59
Urban Men	20 (6.5)	13 (4.2)	307	2 (.7)	13 (4.3)	305
Urban Women	5 (4.7)	3 (2.8)	106	0 (0.0)	8 (7.1)	113
TOTALS	58 (7.1)	30 (3.6)	822	5 (.6)	52 (5.9)	885

* Percentages are of total codes for all questions for each participant group, e.g., Aboriginal men, remembered views.

The coding of the major themes reflecting the participants' 1986 view of the inquiry were in sharp contrast to this. Whereas the pro-inquiry codes comprised 7.1% of all major themes coded for the views at the time of the inquiry, they comprised less than 1% (.6%) at the time of the follow-up study. In contrast the major themes critical of the inquiry went from 3.6% to 5.9% of all major theme codes. In absolute terms the pro-inquiry major theme codes dropped from 58 to 5 and those critical of the inquiry increased from 30 to 52.

The change was not apparent among non-Saskatchewan men, rural men, urban women, and non-Aboriginal northern men. It is noteworthy that, with the exception of urban women, the women in the follow-up study were seemingly not as interested in the issue of whether the inquiry and government was or wasn't really open to public influence. This gender difference needs to be explored as part of a sub-study on gender and the uranium inquiries.

5.4.5 Changes In Association Groups' Views of the Inquiry

Next the major themes coded for remembered and 1986 views of the inquiry were analyzed by association groups. The distribution is shown in Table 43.

TABLE 43

Number and Percentage* of Remembered and Follow-Up Themes About the Inquiry for Association Groups

	REMEMBERED VIEWS ABOUT INQUIRY			FOLLOW-UP VIEWS ABOUT INQUIRY		
	Proponent Codes About Inquiry (%)	Opponent Codes About Inquiry (%)	Total Codes on all Questions	Proponent Codes About Inquiry (%)	Opponent Codes About Inquiry (%)	Total Codes on All Questions
Aboriginal	1 (1.7)	4 (6.7)	60	2 (2.6)	8 (10.5)	76
Proponents	29 (12.7)	5 (2.2)	228	0 (0.0)	3 (1.5)	204
Government	12 (7.9)	5 (3.3)	151	0 (0.0)	9 (6.7)	135
Trade Unions	6 (15.8)	0 (0.0)	38	0 (0.0)	0 (0.0)	22
Opponents	6 (2.4)	13 (5.2)	249	3 (.9)	28 (8.8)	319
Not Grouped[a]	3 (3.4)	3 (3.4)	88	0 (0.0)	4 (3.3)	122
TOTALS	58 (7.1)	30 (3.6)	822	5 (.6)	52 (5.9)	885

a. Excludes "others."
* Percentages are of total codes on all question codes for each Association Group.

What is most noteworthy is that all groups except the proponents and those not grouped, are recorded as having a higher percentage of their follow-up than remembered major themes critical of the inquiry. More vital, **all groups have a decrease, in some cases a marked one, in the percentage of major themes which were pro-inquiry.** Trade unionists, proponents, and those associated with government have a shift from a fairly high percentage for the remembered pro-inquiry major theme to no percentage at all for this in the follow-up.

From these general results it can be argued that **change in the direction of being critical has occurred in views of the inquiry and this change crosses attitude categories and association groups.**

5.5 Understanding Changes in Major Themes

Another way to assess any change in views occurring among the follow-up participants since the inquiries is by comparing the distribution of the seven sets of pro and con major themes listed in Table 44.

TABLE 44

Major Theme Codes for Content Analysis of Uranium Transcripts*

Theme Areas	Pro-Nuclear Codes	Anti-Nuclear Codes
Provincial Economy	**100** The Uranium Industry (mining and/or refining) will diversify, stabilize and provide additional revenue.	**150** Uranium mining/refining are short-term projects which will not produce a stable or sustainable economy or society.
Northern Development	**200** Proceeding with uranium mining will bring otherwise unavailable benefits to Northerners.	**250** To proceed with uranium mining now, or perhaps at all, will further jeopardize the ability of Northerners to take control of and improve their lives.
Energy Policy	**300** An expanded uranium industry is needed to help meet the growing demand for energy required to maintain our (e.g., modern, democratic) way of life.	**350** The perpetual growth in the demand for energy (including nuclear) is unnecessary and unrealistic in a world of limited resources and will not sustain a quality of life for present or future generations
Ecology and Technology	**400** The risks associated with the uranium and nuclear industries are smaller or not greater than those from other energy technologies and will continue to be reduced through improved technology.	**450** The nuclear fuel system (including uranium mining and refining) will be very dangerous for the environment and health of human and non-human life for thousands of years. The risks are too great to justify its continuation or expansion.
Science and Knowledge	**500** Science can understand (and predict) the laws governing the natural order and apply (control) these through such things as uranium and nuclear technology to master nature for human purposes.	**550** Neither pure nor applied (nuclear or other) science can fully comprehend or predict the interdependence or randomness of evolution of human and non-human nature, and the purpose of knowledge should be to work towards a more holistic view of this based on a variety of ways of knowing.
Inquiry Process	**600** The public inquiry process will (has) ensure(d) that a variety of (interest) groups have the opportunity to influence the decision to proceed or not to proceed with the expansion of the uranium industry (mining and/or refining).	**650** The public inquiry will (did) not have any significant effect on the government's pro-uranium/nuclear policy.
Regulatory System	**700** The provincial/federal/international regulatory system will ensure that uranium mining/refining is undertaken in a safe and legal manner.	**750** The provincial/federal/international regulatory system will not and cannot ensure that uranium mining/refining is undertaken safely (even if according to the law).

* Each major theme has a set of specific minor themes grouped under it which are not included here. A participant could be coded with minor and no major themes if their view was considered more specific than general.

To do this the codes for the proponent and opponent major themes were grouped by i) coding of transcripts, ii) coding for remembered view, and iii) coding for follow-up views (the last two from the follow-

up study). Then the number of codes for each theme was calculated as a percentage of the total major theme codes for the group. (No minor themes are analyzed in this report).

The results are shown in Graph 1, where the codes are represented by the first digit of the major theme codes as shown in Table 44. For example, the pro-uranium major theme #1 stands for code 100 which is about the belief in a positive impact of uranium mining/refining on the provincial economy. The anti-uranium major theme #1 stand for code 150 which is about the belief in a negative impact of uranium mining/refining on the provincial economy.

5.5.1 Comparing Graphs of the Major Themes

The most notable trend is the consistency in the distribution of the percentages of anti-uranium major themes from transcript coding to the two codings done in the follow- up study. In all three cases code 450, which is about the negative impact of uranium technology on ecology, is the highest percentage - and the only one in the 20-30% category.

Though the graphs tend to show the same general distribution, it is of interest that the remembered anti- uranium major themes on science and knowledge and on the inquiry process are a lower percentage of the group total than in the transcript or the present views.

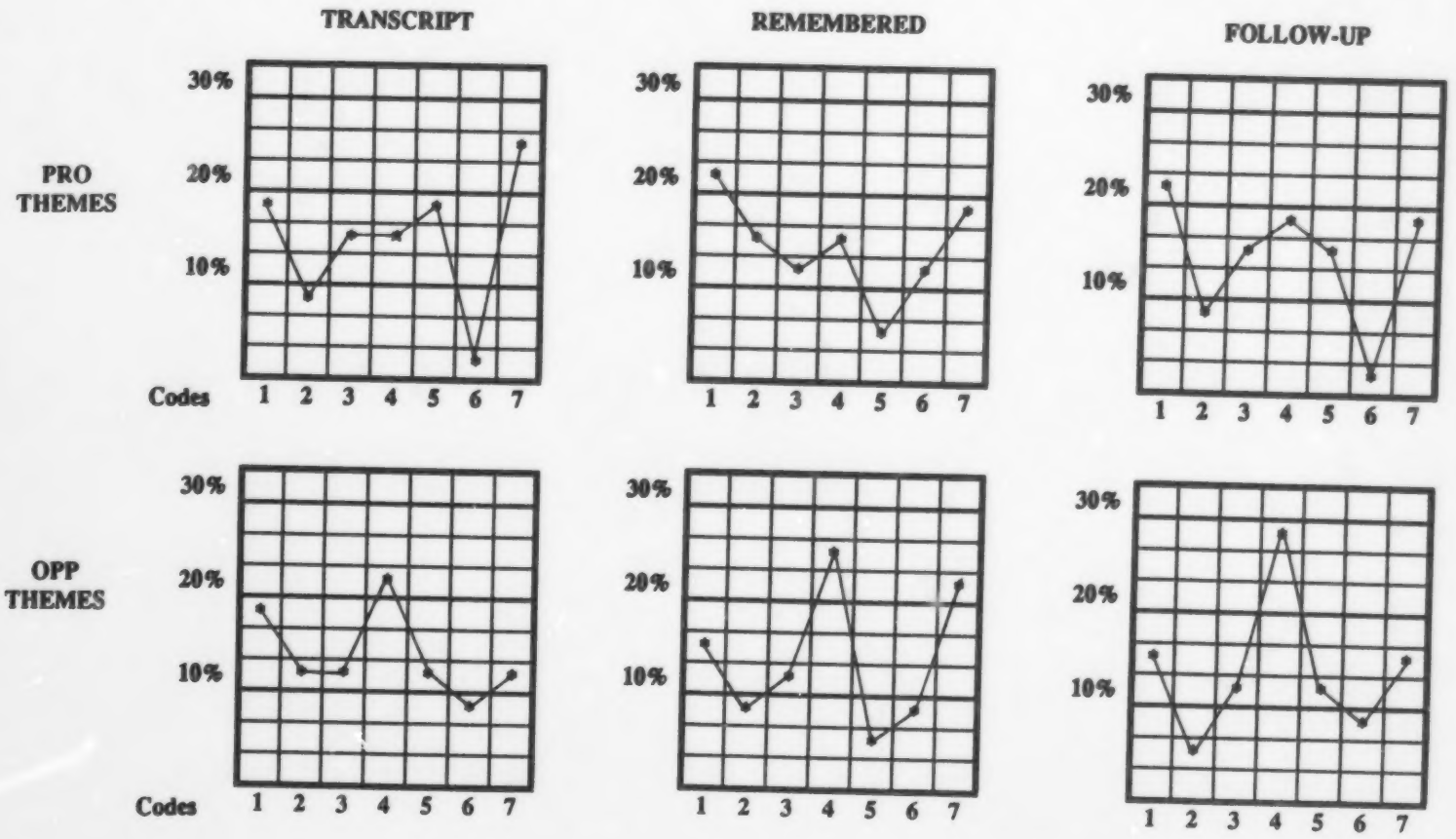
This consistency between coding from direct interviews (and some questionnaires) and coding of transcripts from inquiry presentations; and especially the consistency between the person's memory of their views in the inquiry and the coding of their inquiry transcripts, can be taken as confirmation of the sensitivity and accuracy of the coding method. If there was no similarity between the coding from the transcripts and that from the remembered views in the follow-up, it would be impossible to argue that any differences found between the coding of the transcripts and the later views could be taken as a sign of real changes.

The major discrepancy is between the graph for the remembered pro-uranium major themes and the graphs for the transcript and follow-up codes. Code 300 - on the need for energy growth - is about 5% lower (as a percentage of the total themes) in the case of the remembered than the transcript or follow-up codes. One wonders if the perception of an energy crisis contributes to this discrepancy. The uranium inquiries did occur in the aftermath of the OPEC oil price increases. This, however, wouldn't explain why this code - on the need for energy - has a similar emphasis in the present views in the follow-up study. Code 500 - on the objectivity of science - is about 10% lower (as a percentage of the total themes) for remembered than for the transcript or follow-up codes. Code 600 - on the policy significance of the inquiry - is about 10% higher (as a percentage of total themes) in the case of the remembered than the transcript or follow-up codes.

The greater similarity between the distribution of the transcript and follow-up pro-uranium major themes, which were based on different methods, is challenging. The major difference in the direction of these graphs is for code 500 - on the objectivity of science - which is a lower percentage than code 400 - on the potential of technology - in the case of follow-up major themes.

Graph 1

MAJOR THEMES COUNTS



There is no indication, from these graphs, that the participants' views have actually changed much if the similarity between the transcripts and follow-up codes are taken at face value. One wonders whether the discrepancies between these codes and the remembered codes reflect some kind of adaptation and/or confusion in the memory of proponents about their views during the time of the inquiry. This will be explored in future research on the database.

5.5.2 Comparing Least and Most Prevalent Major Themes

Another way to profile the results of the follow-up study is by comparing the distribution of major themes across the participant groups. To do this all major themes for remembered views were calculated as a percentage of the total major themes for each participant group. These percentages were then ranked from highest to lowest for each group and these ranks compared. Table 45 gives the results.

TABLE 45

Rank Order of Remembered Major Theme Codes from Highest to Lowest Percentage of Total for Participant Groups*

ABORIGINAL MEN				ABORIGINAL WOMEN			
Pro	(%)	Opp	(%)	Pro	(%)	Opp	(%)
North	200 (19.0)	Regulation	750(14.0)	Inquiry	600 (6.0)	Regulation	750 (31.0)
Inquiry	600 (10.0)	Ecology	450 (14.0)			North	250 (19.0)
Regulation	700 (7.5)	Inquiry	650 (10.0)			Soft Energy	350 (19.0)
Economy	100 (6.0)	North	250 (6.0)			Economy	150 (12.5)
Technology	400 (2.5)	Economy	150 (5.0)			Ecology	450 (6.0)
		Knowledge	550 (4.0)			Knowledge	550 (6.0)
		Soft Energy	350 (2.5)				
TOTALS	(45.0)		(55.5)		(6.0)		(93.5)

NON-ABORIGINAL NORTHERN MEN				NON-ABORIGINAL NORTHERN WOMEN			
Pro	(%)	Opp	(%)	Pro	(%)	Opp	(%)
Economy	100 (17.0)	Regulation	750(14.0)	Regulation	700 (24.5)	Inquiry	650 (2.0)
Regulation	700 (13.0)	Ecology	450 (11.0)	Technology	400 (24.5)		
Energy	300 (8.5)	Economy	150 (11.0)	Economy	100 (20.0)		
North	200 (4.0)	North	250 (8.5)	North	200 (16.0)		
		Soft Energy	350 (4.0)	Inquiry	600 (10.0)		
		Knowledge	550 (4.0)	Energy	300 (2.0)		
		Inquiry	650 (4.0)				
TOTALS	(42.5)		(57.5)		(97.0)		(2.0)

(Table continued.....)

NON-SASKATCHEWAN MEN			
Pro	(%)	Opp	(%)
Regulation	700 (25.0)	Economy	150 (4.0)
Economy	100 (24.0)	Ecology	450 (3.0)
Inquiry	600 (19.5)	Knowledge	550 (1.0)
Technology	400 (11.0)	Regulation	750 (1.0)
Science	500 (7.0)		
Energy	300 (3.0)		
North	200 (1.0)		
TOTALS	(42.5)		(57.5)

RURAL MEN				RURAL WOMEN			
Pro	(%)	Opp	(%)	Pro	(%)	Opp	(%)
Economy	100 (12.0)	Ecology	450 (17.0)	Inquiry	600 (4.0)	Ecology	450 (29.0)
Energy	300 (10.0)	Economy	150 (14.0)			Regulation	750 (21.0)
Technology	400 (8.0)	Regulation	750 (14.0)			Economy	150 (19.0)
Science	500 (4.0)	Soft Energy	350 (4.0)			Knowledge	550 (11.0)
Inquiry	600 (3.0)	Knowledge	550 (4.0)			Soft Energy	350 (11.0)
Regulation	700 (3.0)	North	250 (2.0)			North	250 (2.0)
North	200 (1.0)	Inquiry	650 (2.0)			Inquiry	650 (2.0)
TOTALS	(41.0)		(57.5)		(4.0)		(95.0)

URBAN MEN				URBAN WOMEN			
Pro	(%)	Opp	(%)	Pro	(%)	Opp	(%)
Economy	100 (16.0)	Ecology	450 (10.0)	Regulation	700 (7.0)	Ecology	450 (20.0)
Regulation	700 (11.0)	Soft Energy	350 (6.0)	Economy	100 (7.0)	Regulation	750 (19.0)
Technology	400 (11.0)	Economy	150 (6.0)	Inquiry	600 (5.0)	Soft Energy	350 (11.0)
Energy	300 (8.0)	Regulation	750 (5.0)	Technology	400 (5.0)	North	250 (9.0)
North	200 (8.0)	Inquiry	650 (4.0)	Energy	300 (1.0)	Economy	150 (8.0)
Inquiry	600 (7.0)	North	250 (3.0)	North	200 (1.0)	Knowledge	550 (6.0)
Science	500 (4.0)	Knowledge	550 (1.0)			Inquiry	650 (3.0)
TOTALS	(65.0)		(35.0)		(26.0)		(76.0)

* Percentages are taken to nearest number or left at mid-point. They will not always total 100.

Before discussing the different clusters of major themes for each group, it is revealing to spread the groups from those emphasizing opponent themes to those emphasizing proponent themes. This is shown in Table 46. **Six participant groups have more emphasis on opponent themes and three groups have more emphasis on proponent themes.** Except for non-Aboriginal northern women (who come out as the most proponent group), women and especially rural, Aboriginal and also urban women, are the most opposed in terms of the distribution of their major themes. **Other than non-Aboriginal northern women, only out-of-province and urban men are more proponent than opponent in their major themes.** Rural and non-Aboriginal northern men and Aboriginal men form a third cluster with more opponent than proponent themes.

It is noteworthy that this profile based on major themes, using follow-up results, is very similar to one developed from the content analysis of the CLBI local sample based on the distribution of attitudes. This

suggests that these two methodologies may be sensitive to some essential differences among participants.

TABLE 46

Rank Order of Participant Groups in Terms of Highest Percentage of Proponent to Opponent Remembered Major Themes

Participant Group	% OF MAJOR THEMES	
	Proponent	Opponent
Rural Women	4.0	95.0
Aboriginal Women	6.0	93.5
Urban Women	26.0	76.0
Rural Men	41.0	57.0
Non-Aboriginal Northern Men	42.5	57.5
Aboriginal Men	45.0	55.5
Urban Men	65.0	35.0
Non-Saskatchewan Men	90.5	9.0
Non-Aboriginal Northern Women	97.0	2.0

5.5.2.1 Aboriginal Men and Women

There clearly are determinants other than conditions related to ethnic background, residence and gender which contribute to differences in major themes among Aboriginal or other men and women. Nevertheless, it is worth describing what these differences appear to be as a step towards more refined analysis and interpretation.

From the distribution of major themes it appears that at the time of the inquiries **these Aboriginal men accepted and Aboriginal women rejected the view that uranium mining would lead to northern development.** (The most prevalent major theme for Aboriginal men was code #200 (18.7%), whereas this was not coded at all for Aboriginal women.) The other large discrepancy shows Aboriginal women very skeptical (31% for code 750) and Aboriginal men fairly supportive (14% for code 700) of the regulatory system. **The percentage that Aboriginal women had for code 750 was the highest for any single major theme code in any group.** It is also noteworthy that only one pro theme (6% for code 600) was coded for Aboriginal women, whereas five pro themes (from least to most 400, 100, 700, 600 and 200) were coded for Aboriginal men.

5.5.2.2 Non-Aboriginal Northern Men and Women

The comparison of non-Aboriginal northern men and women is very different. The most pervasive major theme for non-Aboriginal northern men is about uranium strengthening the provincial economy (17% for code 100). In contrast to Aboriginal men, code 200, which suggests uranium development will improve

northern Saskatchewan's economy, is least used (4% of codes). (Three codes - dealing with ecology, science and the inquiry - weren't used at all.) Next to the provincial economy, the highest pro-nuclear code was on the adequacy of the regulatory system (13% for code 700) and then on the need for energy growth (8.5% for code 300).

In contrast, all the anti-uranium codes were used by some members of the non-Aboriginal northern men's group. The most pervasive was the code skeptical of the regulatory system (15% for code 750), then the one on ecology (11% for code 450), the negative impact on the provincial economy (11% for code 150) and on the north (8.5% for code 250). After that was the code on the "soft energy" path, on science not being objective or holistic, and finally the one skeptical of the inquiry process (4% for each of code 350, 550 and 650). This mix suggests that another category - perhaps association with the uranium industry - is needed for interpretation.

Non-Aboriginal northern women contrast sharply with non-Aboriginal northern men. **This group is the most pro-uranium based on the coding of major themes.** Only one anti-uranium code was used for this group, the one skeptical of the inquiry, and it was not very prevalent (2% for code 650). In contrast, all the pro-uranium codes were utilized. The highest, in comparison to the men, was the one expressing complete trust in the regulatory system (25% for code 700). After that came the one on technology solving ecological problems (25% for code 400), then the ones on benefits to the province (20% for code 100) and to the north (16% for code 200), and confidence in the inquiry process (10% for code 600). The least prevalent of the uranium major themes was on the need for energy growth (2% for code 300).

This profile **is very close to the abstract pro-nuclear viewpoint which sees government protecting the public and environment and generally-distributed economic benefits accruing from the uranium industry.** The fact that this occurs with non-Aboriginal northern women **raises a whole range of questions about ideology, power and gender in resource hinterlands.**

5.5.2.3 Non-Aboriginal Non-Saskatchewan Men

Next to non-Aboriginal northern women, out-of-Saskatchewan men present the most pro-uranium profile. Like non-Aboriginal northern men their most prevalent code is the one showing confidence in the regulatory system (25% for code 700). The second most prevalent is the one stressing provincial economic benefits (24% for code 100). Unlike northern non-Aboriginal women, their least prevalent code is about northern benefits (1% for code 200). Otherwise they also express confidence in the inquiry (19.5% for code 600), in technology protecting ecology (11% for code 400), and have little apparent concern for energy growth (3% for code 300). Their belief in the objectivity and predictability of science is greater (7% for code 500) than the non-Aboriginal northern women, who had no such codes. These similarities of out-of-province non-Aboriginal men and northern-based non-Aboriginal women raise additional questions about ideology and geographic or social distance from the north and the immediacy of the impact of uranium projects. The

possible separation or distancing effect of the existing division of labour in terms of gender clearly needs to be explored.

5.5.2.4 Rural Men and Women

Rural men are something like Aboriginal men in that they have both proponent and opponent major theme codes. This suggests the factor of association needs further scrutiny. **The most prevalent code for rural men is the anti-uranium one about ecological sustainability** (450) which accounted for 17% of the codes. After that comes the theme about a negative impact on the provincial economy and skepticism about the regulatory process (14% for code 150 and 750). Then comes a pro-uranium cluster - the view that uranium will benefit the provincial economy (12% for code 100); that energy growth is needed (10% for code 300); and that technology can protect ecology (8% for code 400). There is then the view that science is objective; then that it isn't, and support for the soft energy path (4% for codes 500, 550 and 350). Confidence in both the regulatory system and inquiry process is next (3% for codes 600 and 700). Finally there is some skepticism about the inquiry process and concern that the north will lose self-determination from the uranium industry (2% for codes 650 and 250), and last, the view that the north will benefit (1% for code 200).

As stated before, rural women in the follow-up study are the most anti-uranium participant group in the inquiries using this method. The frequency and distribution of their major themes are therefore particularly pertinent to finding out if there is an anti-nuclear paradigm of beliefs.

Their most prevalent major theme was the same as for rural men, the major theme concerned about ecological sustainability. **Their percentage for this code (450) was the second highest for any code for all groups (29%).** The next highest reflected skepticism about the regulatory system (21% for code 750); then the belief that the uranium industry would have a negative impact on the provincial economy (19% for code 150). There was then a cluster supporting the soft energy path and critical of the objectivity of science (11% for codes 350 and 550). Finally there was some confidence expressed for the inquiries (4% for code 600) which was the only "pro" code used for rural women. There was also minor skepticism about the inquiry and concern that uranium projects would not bring northern development (2% for code 650 and 250).

It is noteworthy that **the same three anti-uranium codes were most prevalent for both rural men and women.** The lack of all but one pro-uranium code among the rural women adds support to the conclusion reached in the CLBI local analysis that this group has the greatest opposition to these uranium projects.

5.5.2.5 Urban Men and Women

Urban men in the follow-up study had a much higher percentage for pro-uranium major themes than did urban women. The most prevalent theme was regarding uranium strengthening the

provincial economy (16% for code 100). After that, confidence in the regulatory system and in technology reducing the risks of the uranium industry came highest (11% for codes 700 and 400). The opposite theme, regarding the risks being too great for the industry to continue (code 450), accounted for 10% of the major themes of this group. The demand for energy and benefits of uranium to the north (codes 300 and 200) each accounted for another 8%. Then came confidence in the inquiry (7% for code 600), support for a soft energy path and the belief that the uranium industry can't ensure a sustainable provincial economy (6% for codes 350 and 150). After that came lack of confidence in the regulatory system (5% for code 750), the belief in science as a predictor and controller, and skepticism about the impact of the inquiry (4% for codes 500 and 650). The fewest codes represented the belief that uranium will further undermine northern self-determination (3% for code 350) and that science is inconclusive (1% for code 550). An analysis of occupation and association of urban men in conjunction with this code pattern would be instructional.

Urban women, in contrast, were more like rural women and men with the most prevalent themes being about ecological sustainability (20% for code 45), and skepticism about the regulatory system (19% for code 750). Belief in a soft energy path (11% for code 350) and that the uranium industry will undermine both northern self-determination (9% for code 250) and the provincial economy (8% for code 150), showed this predominant anti-uranium stance. Confidence in the regulatory system and the benefits to the provincial economy of the uranium industry came next (7% for codes 700 and 100). Skepticism about the objectivity of science (6% for code 550), confidence in the inquiry and technology (5% for codes 600 and 400), and lack of confidence in the inquiry (3% for code 650) followed. Finally there was minimal support for the belief in energy growth and that the uranium industry will help develop the north (1% for codes 300 and 200).

6. SUMMARY OF MAIN RESULTS

As stated at the onset, the goals of the interview phase of the study of Saskatchewan Uranium Inquiries were to:

1. obtain evaluation of the inquiry process from each participant;
2. obtain directly participants' attitudes and concerns about uranium mining and refining at the time of the inquiries to compare with results received from coding the transcripts;
3. document present attitudes and concerns in order to assess changes in attitude over time; and
4. determine key characteristics of participants such as occupation and affiliation, ethnicity, gender and residence, which were not always available from the transcripts.

This report has outlined the methodology and indicated the extent of the results which the computerized data make available to researchers. The main steps in the methodology were:

1. Participant groups were formed on the basis of residence, ethnicity and gender.
2. The remembered attitudes toward the projects and the inquiry of these participant groups were detailed.
3. Association groups were formed on the basis of affiliation and occupations. These association groups cut across many of the participant groups.
4. The remembered attitudes toward the projects and inquiry of association groups were detailed.
5. Changes in attitude over nearly 10 years were noted for participant groups.
6. Major concerns about aspects of the projects and the inquiry were coded for each participant and analyzed on the basis of participant groups.

The coding and analysis of the attitudes held by individuals within participant groups leads to the conclusion that participants within each group tended to share points of view, not always shared with other participant groups. The regrouping into association groups produced an even closer similarity of point of view within each group and a sharper difference with other groups.

6.1 Participant Groups

By grouping coded interviews it was possible to see what attitudes and concerns were common to people within each of nine identifiable social demographic groups who participated in the inquiry. These groups are:

1. Men from outside Saskatchewan
2. Southern urban non-Aboriginal men
3. Southern urban non-Aboriginal women
4. Southern rural non-Aboriginal men
5. Southern rural non-Aboriginal women
6. Northern Aboriginal men
7. Northern Aboriginal women
8. Northern non-Aboriginal men
9. Northern non-Aboriginal women

6.1.1 Attitudes Towards Uranium Projects

In the remembered codes the highest unconditional support for uranium mining came from men who lived outside Saskatchewan who had been invited to participate in the inquiries. Almost 77% of them supported the projects. The next highest level of support (56.2%) came from southern urban non-Aboriginal men, followed by 50% of the northern non-Aboriginal women who were interviewed.

Advocacy for a moratorium had been strongest amongst northern Aboriginal men, 83.3% of whom had remembered supporting this position. Most of the northern Aboriginal women (75%) agreed.

Unconditional opposition to uranium mining was strongest amongst southern rural non-Aboriginal women (100%) with 64.3% of the southern urban non-Aboriginal women also opposed. Northern non-Aboriginal men, however, were also coded 42.9% opposed. Twenty-eight percent (28.6%) of this group remembered supporting a moratorium at the time of the inquiries.

6.1.2 Major Theme Comparisons

As the group most strongly supporting the uranium projects, **non-Aboriginal non-Saskatchewan men** showed the following profile based on the distribution of their coded major concerns.[1]

25% Government regulation could control risks
24% Uranium projects would improve the Saskatchewan economy
11% Technology is adequate to prevent damage to the environment
7% Scientific knowledge can understand and solve all problems.

However, this group also showed the following:

4% Uranium projects would harm Saskatchewan economy

Southern urban non-Aboriginal men were also often strong supporters of the projects and showed the following distribution of major concerns:

16% The project is good for Saskatchewan economy
11% Government regulation could control risks

11% Technology is adequate to prevent damage to the environment
8% Uranium is needed for energy
8% Uranium projects would improve the northern economy

However, this group also showed the following:

10% Technology cannot prevent damage to the environment
6% There are better ways of producing energy - alternative means
6% Uranium projects would harm Saskatchewan economy

---

[1] Percentages represent the proportion of the total major theme codes cited from each group. In most cases only the highest percentages are included here for comparison.

Northern non-Aboriginal women, 50% of whom supported the uranium project, showed the following distribution of their major concerns:

24.5% Technology is adequate to prevent damage to the environment
24.5% Government regulation could control risks
20.0% Uranium projects would improve the Saskatchewan economy
16.0% Uranium projects would improve the northern economy

As might be expected when 100% of **southern rural non-Aboriginal women** were in opposition to the uranium projects, the distribution of major themes in the follow-up was as follows:

29% Technology cannot prevent the projects from damaging the environment
21% Government regulation could not control risks
19% Uranium projects would harm the Saskatchewan economy
11% Scientific knowledge is inadequate to understand the whole range of risks
11% There are better ways of producing energy - alternative means

The **southern rural non-Aboriginal men** grouping was much more divided in their concerns than the rural women. Their codes ranked as follows:

17.0% Technology cannot prevent the projects from damaging the environment
14.0% Uranium projects would harm the Saskatchewan economy
14.0% Government regulation could not control risks

But, this group also showed the following:

12.0% Uranium projects would improve the provincial economy
10.0% Uranium was needed for energy
8.0% Technology is adequate to prevent damage to the environment

The **southern urban non-Aboriginal women** sample was also quite diverse in its major concerns. Although nearly two-thirds opposed the uranium projects, a small percentage of the major theme codes suggested some underlying support, as follows:

7.0% Government regulations could control risks
7.0% Uranium projects would improve the provincial economy

However, major objections were reflected in these percentages of major codes:

20.0% Technology cannot prevent the projects from damaging the environment
19.0% Government regulation could not control risks
11.0% There are better ways of producing energy - alternative means
9.0% Uranium projects would harm the northern economy
8.0% Uranium projects would harm the Saskatchewan economy

The **northern non-Aboriginal men** sample also showed a divided profile. By percentage, the major

theme codes showed the following support of uranium projects:

17.0% The projects would improve the provincial economy
13.0% Government regulation could control risks
8.5% Uranium was needed for energy

This group also showed opposition, as follows:

15.0% Government regulation could not control risks
11.0% Technology could not prevent the projects from damaging the environment
11.0% Uranium projects would harm the Saskatchewan economy
8.5% Uranium projects would harm the northern economy

The **northern Aboriginal men** sample had largely supported a moratorium on the projects (83.3%). Their profile from the coding of major themes was as follows:

19.0% Uranium projects would improve the northern economy
14.0% Government regulation could not control risks
14.0% Technology could not prevent the project from damaging the environment
7.5% Government Regulation could control risks
6.0% Uranium projects would improve the Saskatchewan economy
6.0% Uranium projects would harm the northern economy

The **northern Aboriginal women** sample also had a majority of 75% supporting a moratorium. It, however, showed a much more underlying opposition than expressed by northern Aboriginal men.

31.0% Government regulation could not control risks
19.0% Uranium projects would harm northern economy
19.0% There are better ways to produce energy - alternative means
12.5% Uranium projects would harm the Saskatchewan economy
6.0% Technology could not prevent the project from damaging the environment
6.0% Scientific knowledge is inadequate to understand the whole range of risks

6.1.3 Changes in Attitudes

Slight changes since the inquiries could be noted in most of the groups. Southern urban non-Aboriginal men became slightly more polarized. During the inquiries 56.2% were unconditionally in favour of the projects with another 6% in favour but believing a temporary moratorium would be wise. By 1987 the 6% who favoured a moratorium at the time of the inquiries joined the group supporting the uranium projects. At the same time, the opposition amongst urban non-Aboriginal men rose from 25% to 34.5%.

Southern rural non-Aboriginal men showed a rise in those opposing from 50% to 66.7% while the 33.3% in favour remained constant.

Men from outside Saskatchewan registered a slight drop in their pro-uranium attitude from 76.9% to 69.2%.

The most dramatic change occurred with northern Aboriginal men where the 8.3% pro-uranium support dropped to zero. The support amongst this group for a moratorium for the projects dropped from 83.3% to 50%, and opposition to the uranium projects rose from 0% to 41.7%.

6.2 Association Groups

Inclusion within each group was based mainly on announced affiliation and/or occupation and some ethnicity codes. The percentage of interviewed participants in each association group was:

28.3%	Pro-uranium business and science group
14.2%	Government representatives
9.4%	Aboriginal
3.8%	Trade unions
31.1%	Opposition groups
12.3%	Not associated
1.0%	Other affiliation

6.2.1 Unconditional Support for the Projects

In the remembered codes the highest support came from the business and science association group. Seventy-six percent (76.7%) supported the project, and another 13.3%, while believing a moratorium would be useful, also supported the project.

Most of the government representatives interviewed also favoured the projects. Eighty percent (80%) were in favour, and another 6.7%, while supporting a moratorium, were actually in favour of the project. Trade union groups were 100% in favour of the uranium project. Of the Aboriginal group, only 33.3% said they had been in favour but they preferred a moratorium first.

6.2.2 Moratorium Support

The Aboriginal association group was most consistent in its attitude toward the need for a moratorium. Ninety percent (90%) of this group remembered wanting a moratorium at the time of the inquiries. One-third of these thought the projects would be beneficial, one-third thought they would be damaging, and one-third were not sure but supported a moratorium. Thirty percent (30.8%) of the unassociated persons also supported a moratorium. Three-quarters of these were undecided about the benefits/risks, and one quarter believed the risks were too great to go ahead immediately. Of the association of opposed groups, 21.2% supported a moratorium, but of these, 85.7% were actually opposed.

6.2.3 Unconditional Opposition

Seventy percent (70%) of the opposed association group opposed the projects unconditionally. Another 18% were opposed but thought a moratorium would be appropriate. Sixty one percent (61.5%) of the unassociated segment also opposed the projects unconditionally. Another 3% of the unassociated participants opposed them but recommended a moratorium.

6.2.4 Changes in Attitudes

Once again the greatest change in attitude was registered by the Aboriginal association grouping. After nearly 10 years, 50% of this group were opposed to the projects, and another 30% were opposed but believe at the very least a moratorium should be imposed on any further projects.

Other association groups remained relatively stable in their attitudes.

7. THEORETICAL IMPLICATIONS

The content analysis of the transcripts from the uranium inquiries, and the follow-up study of inquiry participants discussed in this report, both focussed on the role and nature of attitudes in the public controversy over the uranium industry. Some fundamental questions arise from this research. Why, for example, do some people hold attitudes sufficiently strong to lead them to actively participate in a public inquiry or a follow-up study? Furthermore, are the attitudes held by a seemingly more passive, broader public similar to those held by people who actively engaged in the inquiries? Or, what role do interest groups play in trying to shape public attitudes?

7.1 Theoretical Problems about Attitude

Attitude research on such broad-based questions has been at the core of the field of social psychology from its start. Though the methods used in this follow-up study and the larger study differ from those typical with such attitude research, and include a greater concern with the sociology of knowledge,[1] some of the same underlying theoretical controversies remain.

Three major theories have developed along with direct research into attitude formation and change.[2] These have stressed:

1) the role of learning in the formation of attitudes,
2) the role of incentives in the formation of attitudes, and
3. the role of cognitive consistency in the formation of attitudes.

All these approaches have some pertinence to the attitude differences and apparent changes in attitudes about uranium mining chronicled in this report.

7.1.1 Learning Attitudes

Learning theory has emphasized the role of conditioning in the creation of attitudes. Accordingly, attitudes are seen to be habits or predictable ways of responding. Attitudes are the result of a learned interrelation of information and feelings which are presented and/or become contiguous with each other. The specific processes involved include association, reinforcement and imitation. In the words of three social psychologists who helped pioneer attitude research: "Just as people acquire information and facts, they also learn the feeling and values associated with these facts."[3]

---

[1] An approach which links social psychology and the sociology of knowledge is E.E. Sampson, ***Social Psychology and and Contemporary Society***. New York: John Wiley and Sons, 1971.

[2] See, for example, J.L. Freedman; J.M. Carlsmith and D.O. Sears, ***Social Psychology***. Englewood Cliffs, New Jersey: Prentice-Hall, 1970, Chap 8, pp. 251-266.

[3] Ibid., p.252.

The high profile ads of the Canadian Nuclear Association (CNA) are examples of the utilization of the principles of conditioning to attempt to strengthen pro-industry or change anti-industry attitudes as part of their promotional campaign. The emotional association of nuclear energy with medicine, professional women, children and grandparents and combating acid rain and global warming are all examples of this. The messages are continually reinforced. The attempt to achieve imitation of attitudes through identification with high status experts is clearly part of the promotion strategy.

The uranium industry has also always tried to associate uranium mining with provincial prosperity and jobs. Regardless of the various facts of the case (e.g., actual versus estimated jobs and benefits, costs per jobs, alternative energy and job-creation strategies), the high arousal involved in discussions about jobs - especially in a period of high unemployment - provide plenty of "affect" which proponents hope will be involved in attitude formation or reinforcement.

In a different way environmental critics of the uranium and nuclear industry involve an appeal to "arousal" around environmental protection or proliferation of nuclear weapons. Information and feelings are interrelated in different ways by proponents and opponents regarding any of these controversies. However, environmental groups do not have access to the budgets or personnel to plan, run and reassess promotional campaigns for the media, schools and targeted sectors of the population to try to reinforce or alter attitudes in their preferred direction. This imbalance in power, resourcing and influence cannot be ignored in any balanced study.

The interrelation of attitudes, information and feeling raises some of the most complex problems of knowledge and of social science methodology. Promotional campaigns for uranium mining and nuclear power typically stress selected facts to the exclusion of others, downplay any disputes over them (e.g., as being restrictive), and tend to deny the role of feelings and values such as status, employment, etc. associated with them even as they make use of these feelings and values to their own benefit. Proponents reject their critics' non-nuclear arguments as if they alone had acces to credible information, recognizing only the feelings and values of proponents.

This approach begs the question of what form and kind of knowledge (including information) has been differentially stressed, subsidized and publicized within society. There is abundant evidence that a pro-nuclear policy in Canadian government since WW2 has created an "unlevel" playing field insofar as technological development, market possibilities and public opinion are concerned.[1]

A positivist and technocratic view of knowledge tends to be widely supported in the nuclear industry. Short of uncritically accepting this view as fact, which is not tenable from either a philosophical or historical stance, complex and challenging problems of knowledge remain. One way of thinking of these problems is that "...an attitude consists of...knowledge plus some evaluative component based in part on that knowledge

---

[1] I outlined some of this in J. Harding, "Examining the Case for a Candu-300 in Saskatchewan," presented to Canadian Nuclear Association, Saskatoon, SK, June 10-12, 1991.

and in part on other factors."[1] The question always remains how the information, feeling and other factors interrelate to shape, protect or challenge the attitudes in question.

The results of this follow-up study and the larger study suggest that one's attitudes towards uranium mining do in fact interrelate with a larger cluster of beliefs that help form and sustain these attitudes. This cluster involves not only the association and reinforcement of feelings about information specific to the controversy about uranium mining, but broader matters discussed in learning theory. One cannot rule out the role of imitation - with people in authority and in expert roles in the establishment of this larger cluster of beliefs. The chairman of the CLBI actually painted a preferential picture of proponents compared to opponents in the introduction to the final report.[2]

An appeal to particular learned values and emotions has been central to the nuclear industry's promotional campaigns. In February 1992 the CNA launched a new $2 million federal television promotion with two English and two French television commercials. These ads were primarily aimed at women and blue collar workers, groups from which the nuclear inudstry believes it can gain greater support.

These ads "...portray ordinary people asking about problems like reactor accidents and disposal of waste uranium. Scientists and technicians reassure them everything's under control."[3] One problem is that the people portraying themselves and labelled as these scientists and technicians were all actors. Furthermore, the actual claims made in the ads were also open to question.

The agency preparing these CNA ads has said it couldn't get actual nuclear scientists and technicians to do the ads because of the actors' union. The agency, nevertheless, went ahead with ads that falsely left the impression that these scientists and technicians were actually speaking.

In early March 1992 the Canadian Broadcasting Corporation (CBC) pulled these ads off its two telvision networks because of what an official called the "revelation of trickery."[4] The CNA removed the names of the scientists and technicians from the ads, but the CBC refused to lift the ban. The Canadian Television network (CTV) continued to run the ads after the false identification were removed.

7.1.2 Incentives and Conflicts in Interests

A weakness in any approach that stresses learning processes *per se* is that it tends to imply more passivity in the way people form or change their attitudes than is warranted. The research reported here is premised on the well-founded assumption that attitudes (and a larger cluster of beliefs) reflect people actively

---

1 ***Social Psychology***, op.cit., p.253.

2 See Cluff Lake Board of Inquiry, ***Final Report***, 1978, pp.2-3. For a detailed discussion, see J. Harding, "Due Process in the Uranium Inquiries," in D. Currie and B. McLean, eds., ***The Administration of Justice***. Saskatoon, SK: Social Research Unit, University of Saskatchewan, 1986. To be republished in D. Currie and B. McLean, eds., ***Rethinking the Administration of Justice***. Fernwood Books, 1992.

3 "Nuclear Industry to Lauch New Ads," Regina ***Leader Post***, Tuesday February 11, 1992.

4 "CBC Removes Four Nuclear Association Ads," Regina ***Leader Post***, March 5, 1992.

striving to meet what they see as their personal and institutional interests; and that the study of attitudes must be able to account for conflicts that are rooted in structural and ideological realities. Though this approach is more consistent with the sociology of knowledge, the social psychological emphasis on the role of incentives in attitude formation and change is a complementary approach.

What social psychologists call "approach-avoidance conflicts" are relevant to this discussion. For example, as we have found in this study, attitudes and interrelated beliefs about uranium mining do not fit into a simple bi-polar model. The more sensitive the measure is to individual and group differences and nuances; that is, the more carefully the quantitative measures are conceptualized and tested from a qualitative perspective, the more likely that the findings will be complex. It was our endeavour to steadily re-evaluate the categories within which the coding of attitudes was done, on the basis of more qualitative insights. The adding of two attitude categories (moratorium proponent and moratorium opponent), as well as various minor themes in this follow-up study is a case in point.

We found that individuals and groupings (e.g., Participant, Association) were sometimes being pulled in two directions; as, for example, Aboriginal participants wanting a moratorium and time to settle land claims and reflect on the issue, and yet feeling that if they didn't go along with the expansion of mining they might lose any opportunity to get jobs or other benefits.

Incentive theory has been utilized to help understand and predict attitude change in terms of these kinds of approach - avoidance conflicts. One way this has been tackled is in terms of the relative strength of the various incentives seen to be affecting the attitude. This approach is very relevant to the study of attitudes towards uranium mining. What a person believed he or she had to lose or gain by the outcome of an inquiry into uranium mining appeared to be a significant influence on how attitudes were formed or reformed. The fact that the expansion of the uranium industry in the 1970s was surrounded by public statements, "press releases" and news stories emphasizing a coming boom from uranium revenues created the ideological "field" within which the controversy, inquiry and all related discourse occurred. The pro-uranium NDP government at the time was talking of 1.5 to 3 billion dollars of uranium revenue for the province from 1977-1990, at a time when the province was vulnerable from reduced federal transfer payments and gluts in other commodity markets.

The revenue which actually came to the province during this time was only $200 million, or 7-13% of the estimated amount. Many of these proponent "images" and expectations have not been born out in retrospect.[1] But at the time the belief that these incentives were forthcoming clearly played a significant role in attitude formation and/or change. The apparent reversal of direction of attitudes from supporting a moratorium (including by proponents) to opposition on the part of some Aboriginal men associated with Aboriginal organizations can, perhaps, be seen in the light of the failure of the "boom" and prosperity (for the

---

[1] See J. Harding, "Critically Assessing the Impacts of Uranium Mining on Aboriginal Communities in Canada," in C.O'Faircheallaugh and K. Coates, eds., ***Indigenous People and Mining*** (tentative title), forthcoming.

north or province) to actually materialize. Crudely put, perceived self-interest was clearly a major factor in shaping and/or changing attitudes towards uranium mining.

The change in the official policy of the New Democratic Party (NDP) from promoting uranium mining when in power in the 1970s to favouring a phase-out of uranium mining when in opposition in the 1980s can also be approached from this stance. The seemingly anomalous finding that non-Aboriginal northern women were the most supportive of the uranium projects, while other women tended to be in opposition, can also be reconciled within this theoretical approach. Many of these northern women were only in the north because their spouses were working for the uranium industry. The exceptional support for the expansion of uranium mining in Uranium City, which was clearly vulnerable at the time of the inquiries, and has since been shut down, appears, in part, to be a result of perceived self-interest.

The fact that the uranium industry hired a few employees from well known Aboriginal families in the province, who had fairly high profiles at hearings and conferences, also appears to reflect their strategy to have Aboriginal people associate the industry with personal and collective benefits.

The clear advantage of incentive theory over learning theory is that it brings motivational aspects directly to the study of the determinants of attitudes. No adequate theory of attitude formation and change can be solely based on learning, whether stressing information or emotion. There must be the direct recognition of the active and instrumental aspect of attitudes. This approach has the advantage over learning theory of bridging the study of attitudes with the study of ideologies. Many of the findings in our research can be placed, more parsimoneously, into this theoretical framework.

This is particularly the case with people directly associated with uranium and nuclear corporations, or those such as in some building trades who see themselves directly benefiting from these industries. Government officials and professional and technical people who are proponents may be less influenced by direct incentives, and more influenced by the learning of attitudes which are interrelated with an overall ideology.

7.1.3 Attitudes and Cognitive Consistency

Theory about human cognition has also had a major influence on how we approach the study of attitudes. The German "gestalt school," with its emphasis on the structure of perception, refocussed attention to the role of internal, cognitive states. Research following from this orientation has stressed the role of "context" and mental "set" on the nature and meaning of perception.

This approach stresses the mediating role of cognitive influences in shaping what we believe is happening in the "real" world. Rather than assessing attitude change directly, as a functional influence on belief and behaviour, this approach assesses attitudes indirectly, through an analysis of the structure of belief and cognition in general.

A theoretical approach rooted in this orientation addresses the apparent need to establish consistency in one's cognitions and the role this plays in attitude formation and change. No matter what specific approaches are taken, all these cognitive theories believe there is "...a general tendency for persons to seek harmony in their cognitive world."[1] The best known example of this has to do with how people change attitudes to reduce cognitive dissonance.

This approach can take into account both the learning processes and motivational drive stressed in the proceeding two orientations. Furthermore, this approach to attitudes is much more consistent with the sociology of knowledge, in that "...an attitude is said to have cognitive, affective and conative components." Accordingly, the cognitive component is the "object of the attitude," the affective component is the "direction of feeling" and the conative component is "the action the attitude brings about."[2]

The striving for internal consistency among attitudes and interrelated beliefs and values is not simple to study. Dominant realities and change in societal structures, historical epochs, eco-systems - and human ideas about all of these - can and will influence whether consistency is easy or even possible. For example, beliefs in perpetual economic growth and unlimited ecological resources, such as is current in many uranium industry studies, would enforce a different cognitive (i.e., ideological) system - including information, emotion and motivation - within which consistency could be achieved, than would the criticism and rejection of these two paramount beliefs. Consistency can sometimes be achieved through denial of factual information. This appears to have happened to some people who continue to outrightly support the expansion of uranium mining, despite the lack of revenue returned to the province.

The findings of our research suggest that this deeper order of belief is at play in the controversy over uranium mining. The strengths of this approach is that it can bridge the study of attitudes with the study of paradigms. The evidence from this study is that different paradigms - not only attitudes and beliefs - are at play in the controversy over uranium mining, refining and nuclear power. While this still must be carefully tested by looking at the multitude of minor themes in relation to major themes and attitudes, findings to date do indicate significant differences in major themes (and beliefs) among proponents and opponents. These range a belief in technological solutions and the benefits of corporate business at one end of the spectrum, and ecological concerns about decreasing resources at the other. Furthermore, affiliation, gender and Aboriginal cultural background all add to the complexity of these differences.

It remains to be seen whether more analysis of specific clusters (e.g., of major codes) suggest ways in which paradigms are constituted or reconstituted. But it is clear that results to date suggest that research at this level of analysis should proceed.

Theories that stress the importance of balance or consistency in attitude formation and change have the additional advantage that they allow a critical examination of the role of propaganda or the systematic attempt to alter attitudes (and beliefs) on a collective basis. As Sampson says,

---

1 Sampson, op.cit., p.119.
2 Sampson, op.cit., p.114.

> **...one can affect some attitude change by inducing an alteration in one component of the overall attitude system. Thus we could expect that propaganda directed toward and only toward the negative affective side of an attitude issue would increase the likelihood of negative cognitive elements appearing and the likelihood that subjects so propagandized would be ready to accept negative belief items.**[1]

While this has more direct implications for studies of how "racist" attitudes and beliefs can be learned or engendered, it can also apply to the matter of attitudes towards uranium mining and nuclear power.

There are indications that the nuclear industry is engaged in promotional activities geared at creating attitude changes that are being orchestrated very much like propaganda. One insight into this is the $8.7 million campaign being run by the nuclear industry association, the American Nuclear Energy Council, to try to undercut public opposition to a nuclear waste repository at Yucca, Nevada. An industry document describing this campaign has recently become available.[2] According to it, the nuclear industry in the U.S. is clearly concerned about what it calls the "slippage" on the "target deadline" for the repository. Its document states, "Since 1986 the industry has seen the repository target deadline slide twelve years - to the point where the very future of a national repository is in question." To try to "halt this erosion" the industry refers to the establishment of a "political beachhead" in Nevada. This involves recruiting influential Nevadans, developing a "dialogue" with the media and paid advertising.

An emphasis on "economic benefits" in a location where there is a serious shortfall of revenue is clearly the way the industry hopes to overcome the 2:1 majority that presently "opposes a repository." The industry talks of "building on its political inroads" and addressing the issue of "safety." It believes, "Major shifts in public perceptions and attitudes are achievable only through a sustained advertising program aimed at the Nevadans."

This campaign is organized around "the utilization of top scientists as spokespeople for the campaign" on the assumption that "scientists can convince the public that nuclear energy is safe." The way to do this is by having the U.S. Department of Energy, which is overseeing the nuclear waste repository, train "its scientists to function as an expert in-house accuracy/response team." As back-up, there will be "a professional media attack/response team." The campaign includes identifying sympathetic reporters and anchormen "to deal with the working press as peers." As the document says, "The advantage of having sincere, seasoned professionals present the industry's side of stories is obvious." This infiltration of the media is to "exert a positive effect on free media coverage and attitudes."

The overall goal of this campaign is to:

> **reduce the number of negative-leaning Nevadans and drive them into the undecided camp....By softening public opposition, the campaign will provide "air cover" for**

---

1 Sampson, op. cit., p.116.

2 "The Nevada Initiative: The Long-Term Program: An Overview," September 1991; reprinted in ***Harper's Magazine***, March 1992, p.22.

elected officials who wish to discuss benefits. Additionally, the advertising component will act to encourage politicians to be much more cautious in their attacks.

The training and orientation of scientists and journalists to become spokespeople for the nuclear industry certainly makes this much more like a propaganda than like an education program. The use of military language (e.g., beachhead, attack team, air cover) is noteworthy.

This approach has many similarities with that used by the CNA and AECL in its campaign to promote a Candu-3 nuclear reactor in Saskatchewan. The CNA's ads, pulled by CBC for being misleading, had an orientation very similar to that being advanced in this U.S. nuclear industry campaign. And, as it turns out, the Candu-3 was just part of an integrated strategy which included a nuclear waste repository in Northern Saskatchewan.[1] The added fact that a memorandum of understanding had previously been signed between the AECL and TRW, a nuclear and other weapons production company with the contract to do the nuclear waste repository in Nevada, suggests that those running the Canadian nuclear industry campaign would likely be privy to the nuclear industry strategy in the U.S.

It is noteworthy that the attempt to neutralize public concerns about safety by orchestrating government-employed scientists and sympathetic journalists, can be seen as a means to reduce a main attitudinal source of cognitive dissonance. If this succeeded, the reinforced message about economic benefits would probably have more impact. An approach-avoidance situation generating much public "cognitive dissonance" would be transformed into one more compatible with the nuclear industry's goals.

This example of a highly centralized and coordinated strategy to change public attitudes not only raises some very basic questions about the independence of scientists, and about democratic accountability, but also shows the need for research on attitudes to be linked to a thoroughgoing structural analysis.

7.1.4 Directions for Research and Theory

It is clearly unacceptable to try to study attitudes towards uranium mining solely in terms of information (or facts). This goes for proponent attitudes as much as those of any other grouping, in spite of the appeal to "facts" which they naively claim to be self-evident to affirm their attitudes.

There are functional as well as structural perspectives which see attitudes within larger ideological systems. Attitudes can be seen as being instrumental, as a means to help achieve perceived self-interest. They can also be a means to affirm identity and role. Perhaps most relevant to this research, they can be a means by which personal "knowledge" gets contextualized. In this regards they can provide general "coherence and meaning to our world." But they can also provide "standards against which we make

---

[1] See R. Lloyd; J. Bonny; and J. Macdonald, ***Prospects for Saskatchewan's Nuclear Industry and its Potential Impact on the Provincial Economy, 1991-2020***. Saskatoon, SK: Peat Marwick Stevenson and Kellogg, October 21, 1991.

judgments" or even "frames of reference within which we interpret and understand."[1] These attitudinal functions are clearly as vital to those supporting as those opposing uranium mining.

There is room for more comparisons of the advantages and disadvantages of the three general theoretical orientations outlined above to the study of attitudes and interrelated beliefs about the uranium and nuclear industry. For example, it is possible to argue that rather than the need to reduce cognitive dissonance being at the root of attitude change (e.g., towards or against uranium mining) this results primarily from an effective process of persuasion. Persuasion thought promotion and propaganda could be studied in terms of learning and/or incentive theory.

This approach, however, still tends more to be an emphasis on the individual and/or group as being passive rather than structurally active in relation to their attitudes and beliefs. To the extent that powerlessness exists for various social groupings, such an emphasis is more justified. The distribution and exercise of real control over one's life and the conditions of one's living and working is clearly a foundation on which any understanding or prediction of attitudes must rest.

Evidence from some past research into cognitive dissonance suggested that whether or not a person perceives him/herself to have choice affects the arousal of dissonance. According to this, if a person saw him/herself as being powerless or constrained and having no realistic choice, dissonance would be less of a factor. If dissonance is not aroused then persuasion and/or incentives would be more effective in forming or changing attitudes.

Another way of understanding this is that if a person has "insufficient justification" for doing or saying something which goes against one's beliefs, there will be more dissonance and pressure to change some aspect of their attitudes. Rationalization of inconsistency is more possible when one has "sufficient justification" for this. Dependence on work in the uranium industry can clearly function to reduce dissonance over any underlying conflict in belief.

It is not necessarily inconsistent to recognize the role of learning, incentives and dissonance reduction as complementary in the forming and changing of attitudes. It is when one theory tries to predict change - for example, more attitude change with less incentive as in dissonance theory; or more attitude change with greater incentive to engage in inconsistent (discrepant) behaviour, as in learning theory - that the conflicts in these theories become more pronounced. Though it is not possible to directly comment on this specific theoretical controversy, it seems possible that direct learning and incentive processes may have been more at play for people directly affected by the uranium industry (in the north, south or out-of-province); whereas cognitive dissonance may have been more at play for the rest. The fact that northern and rural non-Aboriginal women were the polarized the greatest insofar as attitudes to the uranium industry may, in part, reflect this. Another way of stating this, as a hypothesis to be pursued, is that the further one is removed from the direct influence of the industry, the more influence beliefs seen to be discrepant will be on one's attitude.

---

[1] Sampson, op. cit., p.316.

The role of dissonance is clearly greater for some people, in some conditions, than others. When dissonance is high, attitude change may be able to occur with less incentives.

Public relations programs by the uranium and nuclear industry which try to appeal to public arousal about global warming, acid rain and other forms of ecological degradation - and thereby raise dissonance - may be trying to shift attitudes in their preferred direction without as many incentives (or alleged benefits). At the same time, if paradigms are fundamentally changing, and new information about alternatives is becoming more generally accepted, more cognitive consistency may be created without accepting a proponent stance.[1]

7.2 Attitudes, Beliefs and Behaviour

One strength of the cognitive orientation is that it is more able than the others to link attitude, belief and behaviour. According to the notion of cognitive balance, "...persons change their behaviour or outlook in order to achieve balance; persons seek to change others' behaviour or outlook in order to achieve balance."[2] The matter of the interrelation of attitudes, and a larger cognitive cluster of beliefs which are involved in motivation, relates to the study of political ideology and behaviour.

The proponents of the uranium (and nuclear) industry clearly want the general public to believe that the issue is one of self-evident facts, not one of controversial or different facts and interrelated values. But such a simplistic, one-dimensional view of a difference in, and conflict over, attitudes is never very instructive. Furthermore, the findings of this follow-up study show that one's attitude to uranium projects do actually interrelate with other beliefs, as measured by the content analysis of major themes; and that these can be well categorized in terms of what have been called "Participant" and "Association" groups.

It is also necessary to bring in the matter of behaviour. We know that attitudes and behaviour don't always or necessarily interrelate consistently, nor do specific attitudes always or necessarily predict behaviour. We can, however, assume some things about the behaviour of the Participant and Association groups analyzed in this study. Those working with or in close proximity to the uranium industry, or to environmental groups supporting alternatives to this industry, were active within the uranium inquiries and were and/or remain active on this issue.

However, there are other more general indications of the interrelations between attitude, belief and behaviour from within the political process itself. A timely example is the recent attempt to pass a private members' bill (*C-204*) in the federal Parliament which would have phased-out both uranium mining and

---

1 An analysis of SaskPower's Energy Options panel and report and the heated controversy over whether or not Saskatchewan should become the site for a Candu-3 and nuclear waste repository would clearly help decide which of these processes is paramount. See Saskatchewan Electrical Energy Options, ***Final Report***, November 1991.

2 Sampson, op. cit., p.104.

nuclear power. It was defeated by a vote of about 2 to 1. However, the voting by party affiliation suggests that attitudes interrelate with wider beliefs. I will concentrate on voting among Saskatchewan and Ontario Members of Parliament (MPs) since that is where the uranium industry has been active. As such, perceived political, economic and/or environmental interests can be assumed to be more directly related to voting.

As shown in Table 47, 7 of 14 or 50% of Saskatchewan's MPs voted for ***Bill C-204***, to phase out the nuclear including the uranium industry. All 7 were from the New Democratic Party (NDP). Four of the MPs who opposed this ***Bill*** were from the ruling Progressive Conservatives (PCs). The other 3 MPs, who were from the NDP, did not vote on the ***Bill***. Two of these were from ridings (Prince Albert and Saskatoon) where the uranium/nuclear industry has a lot of influence, and it is worth considering whether this was a factor. Anecdotal evidence suggests it may have been a factor in the case of Prince Albert, the so-called "gateway to the north."

As also shown in Table 47, only 15 of 99 or 15% of Ontario's MPs voted for ***Bill C-204***. Thirty-five of 99 or 35% voted against the ***Bill***. But, by far the most (49%) did not vote on the ***Bill***. The vast majority of those supporting the ***Bill*** (9 of 15) were from the NDP, the vast majority opposing (29 of 35) were from the ruling PCs. While there are no Liberal MPs in Saskatchewan, they constituted 43 of 99 of the MPs in Ontario. The bulk of Liberal MPs (32 of 43 or 74%) did not vote on this ***Bill***.

TABLE 47

MPs in Provinces with Uranium Mines

Voting For (Yea) or Against (Nay) *Bill C-204**

	Yea	Nay	Didn't Vote	TOTAL
Saskatchewan				
New Democratic Party	7 (70%)	0	3 (30%)	10
Progressive Conservatives	0	4 (100%)	0	4
TOTAL	7 (50%)	4 (29%)	3 (21%)	14 (100%)
Ontario				
New Democratic Party	9 (90%)	0	1 (10%)	10
Progressive Conservatives	1 (2%)	29 (63%)	16 (35%)	46
Liberals	5 (12%)	6 (14%)	32 (74%)	43
TOTAL	15 (15%)	35 (35%)	49 (49%)	99 (100%)

*SOURCE: ***The Source,*** Cameco: Saskatoon, Dec. 1991. (See article "Parliament Defeats Anti-Nuclear Bill").

These voting patterns further support that one's attitude to uranium mining and nuclear power do interrelate with broader beliefs. These broader beliefs likely involve social, economic and environmental, as well as political matters. No MPs from the NDP voted against ***Bill C-204***, and only 1 MP from the PCs (from Ontario) voted for this ***Bill***. Seventy percent (70%) of the NDP MPs from Saskatchewan and 90% from Ontario voted for ***Bill C-204***, whereas 100% of the PC MPs from Saskatchewan and 63% from Ontario voted against this ***Bill***.

These results show a definite political polarization of attitudes, largely along party lines. Probably a third, "neutral or undecided," attitude exists. The vast majority of Liberal MPs - all from Ontario - did not vote on this ***Bill***. About the same number voted for the ***Bill*** (12%) as against (14%) the ***Bill***.

In total, more MPs from these two provinces with active uranium industries voted against (39 MPs) than for (22 MPs) the ***Bill***. This amounted to 35% and 19%, respectively. However, the largest majority (46%), mostly Liberals, did not vote.

Party affiliation, general beliefs and attitudes towards uranium mining and nuclear power is, of course, much more complex than this. The gender of the MPs and the location of their riding in relation to the industries has not been analyzed. Furthermore, these attitudes are not static, but go through change over time.

Also, all three parties have in fact been involved in the creation and expansion of this industry. The federal Liberal government, the PC Ontario government, the Saskatchewan Cooperative Commonwealth Federation (CCF), precursor to the NDP, and the Saskatchewan NDP have all been directly involved in this industry. It was under the NDP in Saskatchewan in the late 1970s that the massive expansion of the uranium industry occurred.[1]

This raises questions about whether a political attitude, as expressed in a policy when out of office, is predictive of political behaviour, as expressed in policy implementation, when in office. The Saskatchewan NDP was elected during the provincial vote of October 1991 with a policy against nuclear energy and in support of a phase-out of the uranium industry. As of the completion of the resport, the provincial government has cancelled an agreement made with the Atomic Energy of Canada Limited (AECL) by the previous government to do joint research on a Candu-3 nuclear reactor and a nuclear waste repository. Federal-provincial inquiries are now underway on five proposed new uranium mines in the north.

These controversial and deeply divisive issues will likely remain in Saskatchewan politics for the foreseeable future. Based on our research, we would predict attitude changes related to underlying changes in paradigms will continue to take place.

---

[1] See Jim Harding (ed.) ***The Politics of Social Policy: The Blakeney Years in Saskatchewan*** (tentative title), forthcoming.

LIST OF APPENDICES*

Appendix 1	**Provincial Policy Chronology of Uranium Mining in Saskatchewan - Table of Contents and Introduction**
Appendix 2	**Overview: Analysis of Uranium-Related Public Inquiries in Saskatchewan: 1977-1980**
Appendix 3	**Uranium Inquiry Database**
Appendix 4	**Uranium Inquiries Publication Brochure**
Appendix 5	**Approval from Ethics Review Committee**
Appendix 6	**Job Description for Research Assistants**
Appendix 7	**Job Description for Northern Interviewer**
Appendix 8	**Analysis of Saskatchewan Uranium Inquiries Follow-Up Interviews**
Appendix 9	**Invitation to Participate in Follow-Up Interview**
Appendix 10	**Original Pilot Interview Guide**
Appendix 11	**Revised Interview Guide**
Appendix 12	**Letters of Invitation and Questionnaires to Southern and Northern Participants**
Appendix 13	**Out-of-Province Questionnaire**
Appendix 14	**Flow Sheet for Pilot Study**
Appendix 15	**Consent Form for Northern Taping**
Appendix 16	**Revised Codebook (portions relevant to the analyses)**
Appendix 17	**Coding Sheet**
Appendix 18	**Grouping of Affiliation Codes**

*** Available upon request at cost.**